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ABSTRACT

Thirteen papers (1972-1980) on the Portage Project, a home based early intervention program for preschool handicapped children, are presented. The following titles and authors are represented: "The Portage Project: A Model for Early Childhood Education" (M. Shearer, D. Shearer); "A Comparison of Paraprofessional and Professional Success with Preschool Children" (N. Schortinghuis, A. Frohman); "The Portage Project" (D. Shearer, M. Shearer); "A Home Based Parent Training Model" (M. Shearer); "The Portage Project: A Home Approach to the Early Education of Young Children" (D. Shearer, R. Snider); "The Portage Project in the United Kingdom" (E. May); "Systematic Parent Training through a Home Based Model" (R. Boyd); "Validation of the Portage Model in Peru" (G. Jesien, et al.); "Teaching the Retarded Child at Home" (S. Bijou); "Echoes of a Head Start Classroom" (B. Shands); "On Being Precise" (S. Weber, A. Frohman); "The Portage Model in the Head Start Home-Based Option" (D. Cochran, C. Loftin); and "Ten Problems Frequently Encountered When Using Behavioral Checklists" (E. May, N. Schortinghuis). (CL)

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PORTAGE PROJECT READINGS

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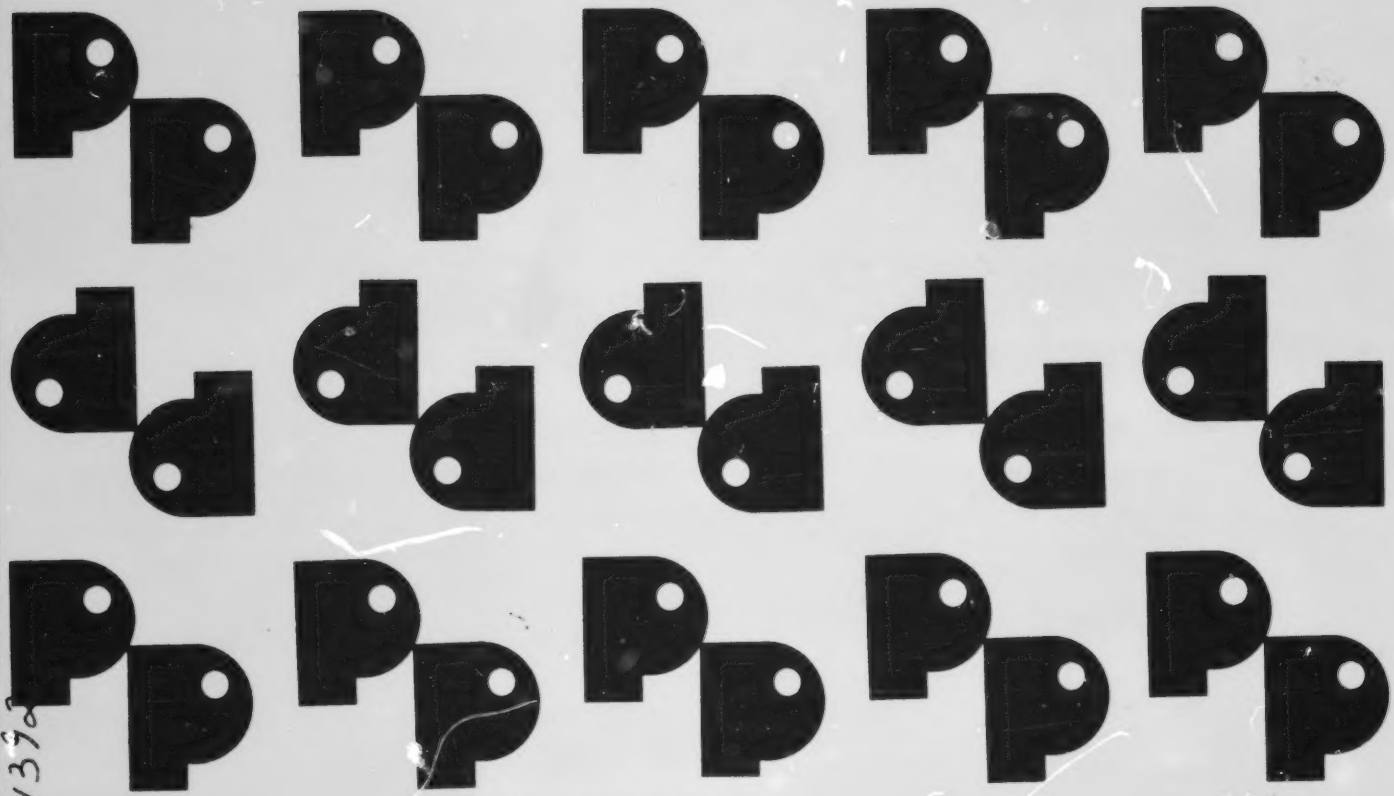

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The PortageProject

In 1975 the Joint Dissemination Review Panel of the United States Office of Education unanimously validated the total Portage Model for national dissemination and replication.

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Association for Childhood Education International
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Exceptional Children
The Council for Exceptional Children
1920 Association Drive
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Journal of Learning Disabilities
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101 East Ontario Street
Chicago, Illinois 60611

The President's Committee on Mental Retardation
Washington, D.C. 20201

TADS
Technical Assistance Development System
500 NCNB Plaza
Chapel Hill, North Carolina 27514

"Bureau" Memorandum
Wisconsin Department of Public Instruction
126 Langdon Street
Madison, Wisconsin 53702

1972 **The Portage Project: A Model for Early Childhood Education**
Exceptional Children, November 1972.
Marsha S. Shearer
David E. Shearer

1974 **A Comparison of Paraprofessional and Professional Success with Preschool Children**
Journal of Learning Disabilities, April 1974.
Neal E. Schortinghuis
Alma Frohman

1974 **The Portage Project**
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David E. Shearer
Marsha S. Shearer

1975 **A Home Based Parent Training Model**
Training Parents to Teach — Four Models, First Chance For Children, Vol. 3, TADS, Chapel Hill, North Carolina.
Marsha S. Shearer

1978 **The Portage Project: A Home Approach to the Early Education of Young Children**
Paper prepared for the International Council for Exceptional Children Conference in Stirling, Scotland, June, 1978.
David E. Shearer
Rebecca S. Snider

1979 **The Portage Project in the United Kingdom**
Elizabeth May

1979 **Systematic Parent Training through a Home Based Model**
A shorter version of this paper appeared in *Exceptional Children,* 1979, 45, 647-648. The work reported herein was supported by the US Office of Education, Bureau of Education for the Handicapped, Grant No. G007500664.
Richard D. Boyd

1979	**Validation of the Portage Model in Peru** Paper initially prepared for presentation at the Interamerican Congress of Psychology, Lima, Peru, July, 1979.	*George Jesien* *José Aliaga* *Martha Llanos*
1980	**Teaching the Retarded Child at Home** Paper presented at the International Symposium on Personal Training of the Mentally Retarded, Tokyo, Japan, February, 1980.	*Sidney W. Bijou*
1980	**Echoes of a Head Start Classroom**	*Betty Shands*
1980	**On Being Precise**	*Susan J. Weber* *A.H. 'Susie' Frohman*
1980	**The Portage Model in the Head Start Home-Based Option**	*Deborah Cochran* *Craig Lollis*
1980	**Ten Problems Frequently Encountered When Using Behavioral Checklists**	*Elizabeth May* *Neal Schortinghuis*

INTRODUCTION

David E. Shearer

The Portage Project is entering its eleventh year of operation. Since 1969 when we first received our funding from the Bureau of Education for the Handicapped, the Project has gone beyond our expectations. We never imagined that it would attain such success, such popularity, or such longevity. Our original goal was threefold:

1) To develop an educational service for preschool handicapped children and their parents living in the rural areas of south central Wisconsin,
2) To develop a model that was practical, cost effective, and able to be successfully replicated by other programs, and
3) To make a statement, a single declaration: that parents can teach their own children in their home.

In 1969 there was no educational service provided in our area to preschool handicapped children. To develop an identification and screening service was in itself a difficult task. Most community services were already overburdened with their existing workload and were not anxious to take on another responsibility. Throughout it all, however, we rarely encountered a service or a person who resisted or opposed our efforts to identify and serve preschool children. In this initial period of identification, screening, and services, it never occurred to us that there should be a cutoff age, a lower limit where early intervention should begin. It was our firm belief then, as it still is today, that if early intervention does enhance a child's growth and development, and if it does have an impact on that child's readiness for learning, then intervention should begin as soon as possible. From the beginning our program accepted children from birth on. We developed a curriculum that began at birth and we worked with parents the moment a child was identified as needing services.

Today, ten years later, the Portage Model has become known for many things. It is a process that utilizes a home teacher as the change agent who teaches parents to teach their own children in the home. It uses an ongoing assessment procedure to assure appropriate curriculum planning so that a child and/or a parent can accomplish an objective in one week. It is a model that advocates an individualized program for each child without an excessive amount of paper work. It has a specific home teaching process. It stresses the importance of maintaining a behavioral log that shows the behaviors the child has learned in each developmental area, when the activity was prescribed, when the child accomplished the activity, and what activities the child is currently working on. The Portage Project has demonstrated that it is applicable for children from birth to the mental age of six and that it can be implemented, with a high degree of success, with normal and handicapped preschool children.

Since 1971, the Project has been working with replication sites, the first being a speech and language preschool program within our own agency. Over the years Portage staff has trained and provided technical assistance to over seventy replication sites located across the country. The Project's initial replication goals were to determine: Could the Model be replicated in similar agencies serving similar populations without major changes? Could it be transferred to an urban population and experience similar results? Could it operate in an even more rural area with virtually no resources available? Could the Model be applied to programs serving normal and handicapped preschool children with the same degree of success? Could the Model work in Head Start? Could it work in residential facilities? Could it work in day care centers? In universities? In medical facilities? Could it work with populations with different life styles? With different cultures? Through our replication efforts in the past eight years the Project has found that the answer to all these questions is "Yes". The Portage Model was the first Bureau of Education for the Handicapped Early Childhood Model to have one of its replication sites approved by the Joint Dissemination and Review Panel of the Office of Education.

In addition to the seventy replication sites in the U.S., the Portage Project has established a number of replications in other countries. A three year pilot program of the model was recently completed in Peru. The Model was field tested in urban and rural areas of Peru including some Andean indigenous communities. In December, 1979, the Model was validated by the Peruvian Ministry of Education and will be expanded. Within the next month staff will be visiting six Latin American countries interested in implementing a similar pilot program. The Model has also been successfully replicated in Santo Domingo, Canada, Ecuador, and Great Britain.

There are numerous reasons why this model, developed in rural Wisconsin, has met with a high degree of success in its replication efforts.

1) It is community based and uses community resources to provide the expertise lacking within the educational staff structure.
2) It is affordable since in order to replicate the Portage Model a program need not go to the expense of employing a large resource staff.
3) The parents, who are already the child's natural reinforcing agents, are provided with the skills necessary to effectively teach new behaviors and to modify inappropriate behaviors that interfere with learning.
4) It follows a highly structured approach that is complex in design yet simple in its implementation.
5) The curriculum reflects the Project's basic philosophy and practices.
6) The Model allows for individualized instruction because of the application of the precision teaching approach.
7) It is easy to staff since it has been demonstrated that "paraprofessionals" with proper resources and supervision can conduct the model as effectively as professionals. There are some replication sites where nearly 100% of the home teachers are former parents in the program.
8) The Model is not only easy to replicate, it is also cost effective. At home and at replication sites it has been demonstrated repeatedly that the home-based program is just as effective as a center-based at a savings of from $600 to $800 per child per year.

Despite all of this, we are not totally satisfied with the Model. We are learning from the field, from other effective models, and from our own research that there are gaps and that there is need for improvement.

For example, in 1974, the staff was convinced that the Portage Model had successfully demonstrated that parents could be taught to be essentially teachers aides. In other words, we demonstrated that parents were able to carry out the teaching process but were not involved in the curriculum planning and the evaluation process. Through three years of research and the development of additional materials focused on the parents' skills, we discovered that a high percentage of parents were capable of planning curriculum, implementing the learning activities and evaluating the progress of their child.

Another example is that, as we worked with more families, we discovered that one cannot work with the child and ignore the needs of the family. We learned that unmet family needs not only inhibit the child's learning but also must be addressed for the betterment of the entire family. Therefore, the staff has developed a family assessment tool which allows us to help the family identify needs and to assist in addressing these needs.

A final example of our growth is that an Infant Stimulation section was added to the original curriculum. This section is a list of suggested activities and materials for parents and educators designed to elicit appropriate responses from the young child. It is designed to complement the already existing birth to one year of age skills included in the curriculum.

We need to put into practice what we have learned through research and through the practical applications of that research, that the entire family must be actively and consistently involved if we hope to have longitudinal impact on the children we serve.

We need to involve the entire community in the daily efforts of mainstreaming the handicapped citizens of our society. Mainstreaming today is usually applied to the educational community only ... within the school and within a sheltered environment. We must look beyond that, to work in homes, in churches, in work environments and elsewhere, to truly mainstream the handicapped into our society.

For me the last frontier is to overcome the taboos and negative associations of having a handicapped child. When society accepts the individual differences of the handicapped and meets their needs, not because they are handicapped but because they are citizens with the same rights and potential worth as we all have.

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THE PORTAGE PROJECT: A MODEL FOR EARLY CHILDHOOD EDUCATION

Marsha S. Shearer
David E. Shearer

Abstract: This article describes an intervention program serving 75 preschool multiply handicapped children living in a rural area. Ages of the children ranged from birth to 6 years. All instruction took place in the child's home. Individualized curriculum was prescribed and demonstrated by a home teacher who visited each parent and child 1 day per week for 1½ hours. During the week, the parents taught the prescribed curriculum and recorded the child's resultant behavior on a daily basis. The results of the project indicate that handicapped children can progress above their expected developmental rate and that parents can initiate, observe, and accurately record this change.

Marsha S. Shearer is Staff Training Coordinator and David E. Shearer is Project Director, The Portage Project, Cooperative Educational Service Agency No. 12, Portage, Wisconsin. *The project reported herein was funded by the Education of the Handicapped Act, P.L. 91-230, Title VI, ESEA, Part C.*

The growth of programs for preschool children has been paralleled by an increased involvement of parents in the education of their children. During recent years there has been a concerted effort by Federal funding sources, such as the Office of Child Development and the Bureau for the Education of the Handicapped, to fund programs that involve the parents of the children being served. This parental involvement could occur at various levels of program development. For instance, including parents on an advisory council, having parents work as classroom aides, and counseling parents could be methods of involving parents in a program.

The Portage Project, a home teaching program, is an attempt to directly involve parents in the education of their children by teaching parents what to teach, what to reinforce, and how to observe and record behavior.

There are several advantages in teaching parents in their homes to be effective agents of behavioral change. First, learning is occurring in the parent and child's natural environment; therefore, the problem of transferring to the home what has been learned in a classroom or clinic does not occur. Second, there is direct and constant access to behavior as it occurs naturally. Third, the maintenance of desired behavior will likely be enhanced if the behaviors have been learned in the natural environment. Fourth, the training of parents, who already are natural reinforcing agents, will provide them with the skills necessary to deal with new behaviors when they occur.

Children Served

The Portage Project presently serves 75 handicapped children from birth to 6 years of age. The children live within the Cooperative Educational Service Agency No. 12 area in south-central rural Wisconsin.

The project serves children who have been previously diagnosed as having behavioral problems or as being emotionally disturbed, mentally retarded, physically handicapped, vision impaired, hearing impaired, culturally deprived, or handicapped in the area of speech or language. The project also serves children with any combination of these disabilities.

Referral Sources

The children are referred to the project by local physicians, social workers, county health nurses, public schools, local guidance clinics, and speech therapists. Public service announcements on local radio stations and newspaper articles describing the project have brought additional referrals, many from parents themselves.

Of the 150 parents contacted regarding the project, only 6 (approximately 1 percent) refused to enroll their child. Of the 150 children referred, 30 were found not to need an early intervention program. Four of the 75 parents and children enrolled in the project withdrew after the home visits began. Of these 4, 2 children were in families who moved from the area, 1 child was placed in a state hospital, and 1 parent was dissatisfied with the project.

Rationale For The Home Teaching Model

During the planning phase, as children were being identified, it was evident that a classroom situation could not be provided. The intermediate agency serves 23 school districts and covers a geographical area of 3,600 square miles. To transport these preschool handicapped children to one central location would not have been either practical or possible. Even when several children had been identified within a smaller area, i.e. one school district, their handicaps and/or their chronological ages varied so greatly that it was not to the children's advantage to place them in a group.

The project's administrative staff decided that, due to these problems, a home teaching model would be the most feasible delivery system to provide educational services. An educator — a home teacher — was provided to each child and his family 1 day per week for 1½ hours for a period of 9½ months. This schedule of home visits was met 92 percent of the time, which takes into account cancellations due to inclement weather, illness, family vacations, and hospitalizations. During the 6 days the home teacher was not present, the parents served as the child's teachers by implementing prescribed curriculum and recording the child's progress.

Assessment Of The Children

After a child had been referred to the project, a home teacher assessed the child to determine if he needed an early intervention program. The project does not serve children functioning at or near their chronological age in the developmental areas. However, the project has never refused service because a child had too many handicaps or had handicaps of too great a degree.

The assessment instruments used have included the *Developmental Skill Age Inventory*, experimental edition (Alpern & Boll, 1969), the *Stanford-Binet Intelligence Scale*, Form L-M (Terman & Merril, 1960), the *Cattell Infant Scale* (Cattell, 1940), the *Peabody Picture Vocabulary Test* (Dunn, 1965), and the *Slossen Intelligence Test for Children and Adults* (Slossen, 1963).

The developmental scales and intelligence tests were administered in order to provide objective data concerning gains in mental age and IQ; however, the teaching staff was not concerned with labels or IQ scores. The concern was the behavior of the individual child. Knowing that a child is a mongoloid or has an IQ of 50 or is brain damaged does not tell a teacher what the child can already do, what next to teach, nor how to teach it. Each child was provided with an individualized curriculum based on his present behavior, not his disability label.

Staff

Four certified special education teachers and three paraprofessionals were hired and trained to serve as home teachers. Certified personnel served an average of 12 children; the paraprofessionals had an assigned caseload of 10 children. Preservice training included instruction in child development, assessment techniques, precision teaching, and behavior modification (Shearer, 1971). Pre- and post-tests were given after each instructional period to evaluate the instruction itself. Inservice meetings for the entire staff were held 1 day per week and home visits were not scheduled on that day. These sessions provided the individual staff member with needed reinforcement and help with specific problems encountered during the week.

During a specific 2 hour staffing period, each home teacher presented problems causing concern. The group reacted by making suggestions and finally by establishing a prescriptive goal which the home teacher implemented the following week. Data on this prescription was collected, and at the next inservice meeting the home teacher reported either success or failure. If the goal was not achieved, the staff modified the reinforcer, changed the reinforcement schedule, or divided the goal into smaller segments.

The paraprofessional home teachers met with the staff training coordinator one additional half day per week to review the previous week's data and to help in planning prescriptions for the coming week.

The home teacher accompanied the parent and child on clinic appointments and suggestions were sought from outside professionals at this time and throughout the year as problems arose.

Curriculum Planning

To facilitate planning for individual children, the project staff devised an Early Childhood Curriculum Guide (Shearer, Billingsley, Frohman, Hilliard, Johnson, & Shearer, 1970). The guide is in two parts: (a) a Developmental Sequence Checklist, which lists sequential behaviors from birth to 5 years of age in five developmental areas — cognitive, language, self help, motor, and socialization; (b) a set of Curriculum Cards to match each of the 450 behaviors stated on the Checklist, using behavioral objectives to describe the skill and suggesting materials and curriculum ideas to teach each of these 450 behaviors.

The Checklist is used to pinpoint the behaviors the child already exhibits in the five developmental areas. This is considered initial baseline behavior. Based on this data, the home teacher can then prescribe the next behavior on the Checklist, often dividing this behavior, which is called a long term goal, into smaller segments. Thus, the child is assigned a goal he will achieve within 1 week regardless of the severity of the handicap.

As the parents experienced success and gained confidence in their ability to teach their child and record his behavior, the initial one or two prescriptions per week were increased to three or four prescriptions. These activities were in several areas of development. For instance, the parents might have been working on buttoning, reducing tantrums, and counting objects all within the same week.

The parents were encouraged to contribute to the planning and implementation of the curriculum and these suggestions were absorbed into the prescriptions during the home visit. The parents were shown how to record their child's behavior on the prescribed curriculum tasks, and as the parents taught their child during the week, they recorded the behavior as it increased, decreased, or remained the same.

Recording behaviors was new and somewhat threatening to some of the parents, so the home teachers initiated just one prescription during the first week. The home teachers showed the parents how to record and the parents practiced during the home visit. This initial goal was chosen so that it would be helpful to the family (i.e., the child will put on coat without help) and be at a level that the home teacher believed would be achieved within 1 week. This helped guarantee the parent and child immediate success.

Thirty percent of the parents did not record during the first month. Praise and sometimes more tangible reinforcers were used in some situations to initiate recording behavior. However, once the parent began recording, tangible reinforcers were no longer necessary; seeing the behavior of the child change became a reinforcer in itself. The overall rate of daily recording by the 75 families in the project was 92 percent.

Home Training Process

The home teacher entered each child's home with the average of three to four prescriptions per week and any materials needed to carry out these activities. First the home teacher took postbaseline data on the previous week's activities. Based on this data, the home teacher altered these prescriptions or introduced new activities. Baseline data was then collected on each new task. Such collection is important since it is necessary to first discover how close the child is to achieving the prescription. For instance, a prescription might have been for hopping on one foot in place without support, 5 times per trial, 3 trials per day. If baseline data had indicated that success on this activity was not likely to be achieved in 1 week, the home teacher would have changed the prescription, gone back to a prerequisite skill, and prescribed hopping on one foot in place with support, 5 times per trial, 3 trials per day.

As baseline data was collected on each new prescription, the task was demonstrated to the parent as the home teacher worked with the child. The home teacher then observed the parent working with the child on the prescription. Often the home teacher supplied the parent with additional teaching information, such as, "How about increasing the amount of praise and see if he will perform better," or "You are giving too many clues to Johnny. Look, you are holding your hand in front of the colored block you have asked Johnny to give you. Place your hand between the two blocks." The parent is expected to stay with the child and the home teacher during the session because this visit is designed to teach the parents how to teach, how to record, and how to reinforce the prescribed behavior for the coming week.

An activity chart for each prescription was left with the parent (see Figure 1). This chart described in behavioral terms what goal was to be accomplished, how often the skill was to be practiced, what behavior was to be reinforced, and how it was to be reinforced. The directions were specific and the parents had the activity chart to refer to during the week. The parent was instructed to record on the activity chart the child's behavior each day on each prescription.

FIGURE 1. Sample activity chart.

ACTIVITY CHART

CREDIT: ____ yes ____ no

Child's Name Brenda

Home Teacher's Name: Jean

Week of 9/13/71

BEHAVIOR: Brenda will say the sound 'wa' as in 'water' with aid .3 trials, 3 times a day

DIRECTIONS:

Sit Brenda in front of you. Make the 'wa' sound several times and have Brenda watch you as you do this. Then use the mirror and encourage Brenda to watch you by looking into the mirror. Use your fingers to gently guide Brenda's mouth into position and ask her to repeat 'wa' after you and encourage her to look at herself in the mirror as she does this. Praise Brenda for each attempt and as Brenda begins to consistently repeat the 'wa' sound reduce the pressure on the mouth. Continue praising success.

Record first 3 trials each day and Practice 3 times each day.

The PortageProject

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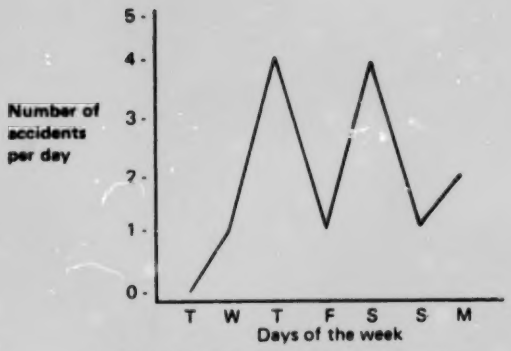

FIGURE 2. Baseline data on the frequency of Donovan's toileting accidents.

Recording proved to be reinforcing to the parents because they could see the daily changes in their child's rate of appropriate responses. When the home teacher returned the following week, he recorded postbaseline data on the previous week's activities. This helped the home teacher validate the accuracy of the parents' recording.

Examples Of Behavioral Change

The presentation of typical behavioral changes that have occurred may further aid in describing the techniques and processes of the Portage Project.

Donovan

Donovan was 4 years old when referred to the project by the county health nurse. He was born with club feet and was strabismic. Donovan had been hospitalized several times for surgery on his eyes and legs, and in between hospitalizations his mother had begun the toilet training process. After each hospital stay, the training regressed. There had never been consistent success in toilet training, and even though the last surgery had occurred 8 months prior, toilet training had not been reinstated.

During the first phase of the toilet training procedure, Donovan's mother was instructed to check him every hour and to record on a chart when he went (time), where he went (pants or toilet), and what he did (bowel movement or urination). This information revealed that Donovan did not defecate or urinate for 3 hour stretches, that he had one bowel movement a day at about the same time each day, and that he averaged two accidents per day but with great fluctuation.

Donovan's chart (Figure 2) indicates that he was already having some toileting success, and in fact, the first time his mother recorded, Donovan had a perfect day. The home teacher hypothesized that if Donovan recorded his own behavior, his rate of success would increase. Figure 3 describes Donovan's rate of progress over the next 2 weeks using self recording.

During the time these data were collected, Donovan was receiving praise and, in addition, was recording his own successful behavior by pasting a Snoopy sticker on his toileting chart for each success in the bathroom. Accidents were ignored (except for parental charting), and Donovan had to change his own clothing and do whatever cleanup was necessary.

At the third week of recording ended, Donovan was having an average of 1 accident per day, and this was a bowel movement. The home teacher and parent altered the frequency of the reinforcer, and the reinforcer itself changed. The payoff for success was now a happy face sticker which Donovan applied to the bathroom door only if he had a successful day, i.e., no accidents. Figure 4 describes Donovan's change in behavior.

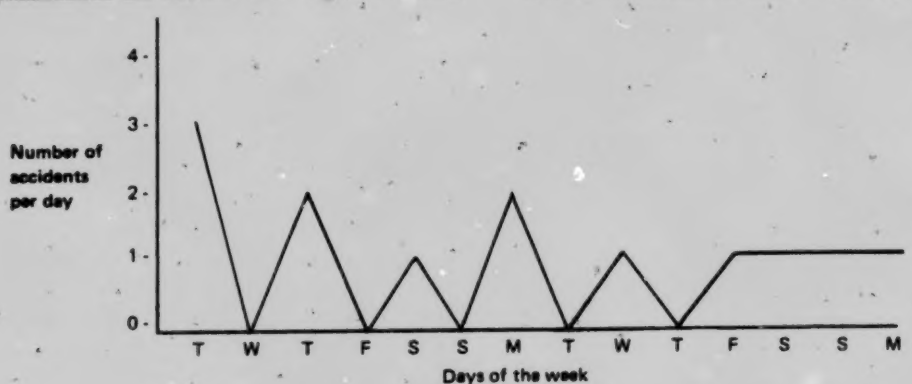

FIGURE 3. Frequency of Donovan's toileting accidents when he was given praise and Snoopy sticker for each success and when accidents were ignored.

FIGURE 4. Frequency of Donovan's toileting accidents when he was given praise and a happy face sticker was applied to the bathroom door for a perfect day.

After several more days of success, the stickers were faded out. Donovan's behavior continued to remain consistent. Fading occurred as Donovan noticed that the supply stickers was running low and he suggested that he did not need to have one every day.

Penny

Penny was 13 months old when she was enrolled in the project. She was born with Moebius Syndrome, a congenital anomaly which resulted in a bilateral facial paralysis, strabismus, and gross motor retardation. Socialization skills were also below normal as measured by the *Alpern-Boll Developmental Skills Age Inventory* and the Sequential Checklist. Penny did not engage in typical imitative behaviors common to her peers. Because imitation is thought to be a necessary prerequisite needed to learn new behaviors, the home teacher prescribed a series of activities to teach Penny a new behavior through shaping and rewarding closer approximations to the final behavioral goal, i.e., clapping hands in imitation.

Since this was a behavior that was not in Penny's present repertoire, it was necessary to provide maximum physical assistance, i.e., her mother took Penny's hands, clapped them together, and said "pat-a-cake" with each movement. Penny was given a fruit loop and praise after each successful trial. Because Penny was receiving help to accomplish the task, success for both Penny and her mother was built into the activity. As the first week progressed, her mother applied less pressure to Penny's hands.

Beginning with the second week, the prescription was for clapping hands in imitation without physical help. A food reward was still given immediately if Penny imitated her mother. If Penny did not perform, her mother provided help, but no food reward was given.

The final prescription was the completion of the long term goal — clapping hands in imitation without help or food reward. Penny continued to perform successfully even though no food reward was provided (see Figure 5). The social reward (attention and praise) was a sufficient reinforcer for Penny to continue to perform the new behavior.

Evaluation

Evaluation was an ongoing process. The parent recorded her child's performance on the prescription daily. The home teacher evaluated weekly by comparing baseline and post baseline data, and a complete evaluation was undertaken twice a year using the IQ tests and developmental scales described earlier.

The weekly assessment of the child's behavior was also an assessment of the home teacher's ability to prescribe appropriate curriculum. If the child had not succeeded on a task within a given length of time, then it was not assumed to be the child's fault. The failure was likely to be the home teacher's, perhaps because the appropriate task had not been prescribed for the child or the parents had not been given adequate directions. Unlike most teachers, the home teacher knows this within a week, and the prescription can be modified.

If the parent had not been able to work effectively with the child during the week, the home teacher might need to modify the prescriptions (perhaps there were too many), or give the parent additional reinforcement.

A log was kept on each child listing each behavior prescribed, the date the curriculum was initiated, the date the behavior was achieved, and the developmental area the behavior is assumed under, i.e., self help, language,

cognitive, socialization, or motor. This log provided information concerning the specific behaviors each child had learned, the date he learned them, and the duration of each prescription. In addition, data concerning the percentage of success on tasks was also available.

Results

The average IQ of the children in the project was 75 as determined by the *Cattell Infant Test* and the *Stanford-Binet Intelligence Test*. Therefore, it would be expected that on the average, the normal rate of growth would be 75 percent of that of the child with normal intelligence. Using mental ages, one would expect that the average gain would be about 6 months in an 8 month period of time. The average child in the project gained 13 months in an 8 month period; he gained 60 percent more than his counterpart with a normal intelligence.

Children who, because of age, remained in the project after 1 year were retested in September, and these test results were compared to the scores achieved the previous June. Although it would be expected that some regression would occur, there was no significant difference in the scores. This may indicate that the parents continued to work with and reinforce behaviors even though the home teacher was no longer making visits.

An average of 128 prescriptions were written per child. The children were successful on 91 percent of the prescriptions written by professional and paraprofessional staff.

An experimental study was conducted involving randomly selected children from the Portage Project and randomly selected children attending local classroom programs for culturally and economically disadvantaged preschool children. The *Stanford-Binet Intelligence Scale*, the *Cattell Infant Scale*, and the *Alpern-Boll Developmental Skills Age Inventory* were given as pre- and post-tests to both groups. In addition, the *Gesell Developmental Schedule* was given as a post-test to both groups. Multiple analysis of covariance was used to control for IQ, practice effect, and age. The greater gains made by the Portage Project children in the areas of mental age, IQ, language, academic development, and socialization were statistically significant, as compared to the group receiving classroom instruction (Peniston, 1972).

Using the children as their own control, test results and behavioral gains were compared and measured. The mean gain in IQ scores on the *Alpern-Boll Developmental Skills Age Inventory* was 13.5 and was statistically significant beyond the .01 level. The mean gain in IQ scores on the Stanford-Binet was 18.3 and was statistically significant beyond the .01 level.

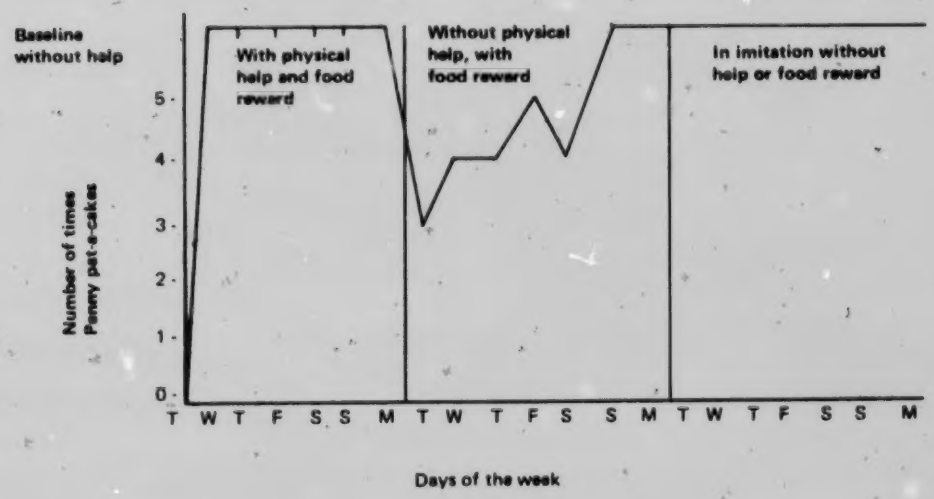
Baseline without help
With physical help and food reward
Without physical help, with food reward
In imitation without help or food reward
Number of times Penny pat-a-cakes
0
1
2
3
4
5
T W T F S S M T W T F S S M T W T F S S M
Days of the week

FIGURE 5. Frequency of Penny's imitative behavior.

A Catalyst For Parent Involvement

There is a growing concern for more parental involvement in education and in the provision of good educational services to handicapped children in rural areas. This model indicates that parents can effectively teach their children and that their children can, indeed, learn. All parents have the major responsibility for decision making, rearing, and teaching their children. Parents of handicapped children often have this responsibility for a much longer period of time and are in greater need of parenting skills and knowledge concerning methods of teaching and child development.

Educators have been guilty of relieving the parents of the responsibility of education. Yet, a child's poor classroom performance is often blamed on the "inadequate parent syndrome." Parents of handicapped children need guidance, but more importantly, they need the experience, satisfaction, and the pleasure of working with their children and seeing them succeed as a result of their own efforts. Most parents of handicapped children want to be able to be at least partially responsible for the progress of their child and do not want to be told that the teaching can only be done by somebody else. Home based programs involving individualized instruction through precision teaching is the catalyst which can provide this service to parents and their children.

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A COMPARISON OF PARAPROFESSIONAL AND PROFESSIONAL SUCCESS WITH PRESCHOOL CHILDREN

Neal E. Schoutinghuis
Alma Frommann

In this study 21 children and their parents were served by paraprofessionals and 16 children were served by professionals in the Portage Project — a home approach to the early education of handicapped children in a rural area. The Portage Project, using a precision teaching model, offered an opportunity to compare gains made by children when they were served by a paraprofessional or a professional. The results indicate that in this project, paraprofessionals were as effective in teaching specific behaviors as professionals.

Paraprofessionals have become an increasingly important part of the educational team. In 1966 the National Education Association conducted a survey which determined that 80,000 teacher aides were in use in the United States. The 1970 figure was 200,000, according to the Center for Urban Education, with a predicted figure of 1½ million by 1977.

The literature is replete with papers discussing paraprofessional training (Banick 1966, Brotherson & Johnson 1971), paraprofessional roles (Noar 1967, Esbensen 1966), and descriptions of programs utilizing paraprofessionals (Noall 1964, Frankson 1966). Very little research has been undertaken to compare gains made by children when they are taught by paraprofessional or professionals. Gartner & Riessman (1969) did cite some studies where teachers attributed demonstrable pupil performance gains in reading readiness and number readiness to the introduction of paraprofessionals in the classroom. The review of the literature failed to produce any study where paraprofessionals and professionals were directly compared in teaching specific skills.

This study was designed and implemented to determine if, after a careful preservice and a continued inservice, paraprofessionals could be used as home teachers.

The Portage Project, a home approach to the early education of handicapped children in a rural area, was an intervention program serving 73 preschool children. The Portage Guide to Early Education is a developmentally formulated curriculum to be used with children, either handicapped or normal, between the mental ages of birth to five years. These materials were developed and utilized by the Portage Project staff (1973) over a period of four years.

The Portage Guide to Early Education comes in two parts: (1) a Checklist of Behaviors, and (2) a Card File containing curriculum ideas. An individualized curriculum was prescribed and demonstrated by a home teacher who visited each parent and child one day per week for one-and-a-half-hours. During the week, the parents taught the prescribed curriculum and daily recorded the child's resultant behavior (Shearer & Shearer 1972). Each child's prescribed curriculum was unique and dependent upon an assessment of his present behavior and emerging skills planned by the paraprofessional or professional who was working with the parent and the child. This type of data-based precision teaching program offers an opportunity to evaluate the resultant growth of children whether the home teacher is a paraprofessional or a professional.

Before working with parents and children in the home, both paraprofessionals and professionals attended a one-week intensive workshop developed by the Portage Project. The workshop is described in detail by Shearer (1971). The purpose of this preservice was: (1) orientation to the project and its goals, (2) teaching assessment techniques, and (3) teaching precision teaching and behavior modification techniques.

The paraprofessionals employed by the Portage Project met the certification requirements for "assistant monitors-special education." These requirements are three years of college or three years of experience with children in structured group situations. All the Portage Project's paraprofessionals were high school graduates. All had three years of experience with children i.e., Boy Scouts and none had more than one year of college.

The home teachers had an average weekly case-load of 14 children. During one-half day per week, the staff met as a whole for inservice training.

The only distinction made between a paraprofessional and a professional was that the paraprofessionals met individually an additional one-half day a week with the Portage Project's Training Coordinator to help write and review prescriptions for each child in the paraprofessional's case-load and discuss any problem that might have arisen.

Study Design

The subjects were 37 handicapped children who were enrolled in the Portage Project in September, 1972. The 37 children comprised the total population entering the project for the first time for the school year 1971-72. The three professionals and four paraprofessionals were assigned children on a geographical basis without regard to the nature or degree of handicapping conditions. Twenty-one children were served by paraprofessionals and 16 by professionals.

For the 37 children, age range was 24-87 months, with a mean age of 47.8 months. For those served by paraprofessionals, age range was 24-87 months, mean age 46.7. For those served by professionals, age range was 31-72 months, mean age 49.9 months; IQ range was 30-135. The IQ range of those served by paraprofessionals was 37-103.

Instrumentation. The Stanford-Binet, the Cattell Infant Test, and the Alpern-Boll Developmental Profile were administered to the subjects in September. Following approximately eight months of involvement in the project, all the children were retested. Both the pre-test and post-test were administered by the home teacher. Although the home teachers were aware a study was being conducted, they did not know that professional/paraprofessional comparisons were going to be made.

Procedures

The gains made in months on the communication and academic subtests of the Alpern-Boll Developmental Profile were used and the two dependent variables investigated. A previous investigation (Peniston 1972) had shown that gains made in these two areas were significant when compared to a control group.

Analysis of variance was used to compare gains made in months on the communication and achievement scale of the Alpern-Boll Developmental Profile between paraprofessional and professional treatment groups.

Results And Conclusions

The summary of the results of the analysis of variance for communication skills is shown in Table 1. The differences between paraprofessionals and professionals were not significant, $F = 2.660$, $df = 1.35$, $p = .112$. The paraprofessionals did, however, have a higher mean gain in months (15.312, SD = 8.69) than did the professionals (10.286, SD = 9.71) in teaching communication skills.

The summary of the results of the analysis of variance for academic skills is shown in Table II. The difference between paraprofessionals and professionals was significant at the .05 level, $F = 4.713$, df = 1.35, p = .037. The means in month gain of paraprofessionals (17.730, SD = 8.06) and professionals (11.007, SD = 8.72) in the academic area would tend to indicate that paraprofessionals had more success in teaching handicapped preschool children than did the professionals, if all other variables were equal.

It would appear from this comparison that paraprofessionals can be used as home teachers, after intensive inservice training in a data-based precision teaching program. The paraprofessionals participated in a training program developed by the Portage Project and worked one-half day each week with a home teaching specialist. The rest of the week the paraprofessionals worked with parents and their handicapped children independently, and the data indicate success. — *Cooperative Educational Service Agency #12, P.O. Box 564, Portage, Wisconsin 53901.*

Table I. *Analysis of variance of paraprofessional and professional groups: communication skills.*

Source of Variation	df	Sum of Squares	Mean Square
Between	1	229.5	229.5
Within	35	3019.7	80.3
Corrected Total	36	3249.2	

$F(1.35) = 2.66$, $p > .05$

Table II. *Analysis of variance of paraprofessional and professional groups: academic skills.*

Source of Variation	df	Sum of Squares	Mean Square
Between	1	336.1	336.1
Within	35	2495.7	71.3
Corrected Total	36	2831.7	

$F(1.35) = 4.71$, $p < .05$

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THE PORTAGE PROJECT

David E. Shearer & Marsha S. Shearer

Introduction and Overview

The Portage Project was originally funded in 1969 by the Education of the Handicapped Act, P.L. 91-230, Title VI Part C to develop, implement and demonstrate a model program serving young handicapped children in a rural area.

The Portage Project operates administratively through a regional educational agency (Cooperative Educational Service Agency 12) serving twenty-three school districts in south central rural Wisconsin. The Project currently serves one hundred and fifty children between the ages of birth to six, or up to such time as a child's readiness for a school program is demonstrated. The children have been identified as being handicapped in one or more developmental areas. Any preschool child, with any type or degree of handicapping condition residing within the 3,600 square mile area served by the agency, qualifies for the early intervention project.

There is no classroom program. All instruction takes place in each child's home and the teaching is done by the parents. A home teacher is assigned to each child and family. These educators, who may be trained professionals or trained paraprofessionals, visit each of their fifteen families one day per week for one and one-half hours. An individualized curriculum is prescribed weekly based on the assessment of each child's present behaviors in the areas of language, self-help, cognitive, motor, and socialization skills. Utilizing the parents as the teacher, the Portage Project follows the precision teaching model (Lindsley, 1968):

1) At least three *behaviors are targeted* for learning each week. The behaviors and criteria are chosen with the goal that the child (plus the parent) will achieve success in one week.
2) *Baseline data is recorded* by the home teacher on each new task prior to instruction as an additional check on readiness.
3) The parents implement the *actual teaching process itself* during the week which includes reinforcing desired behaviors and reducing or extinguishing those behaviors that interfere with learning appropriate skills.
4) The home teacher *records post-baseline data* one week later to determine if the prescribed behaviors taught by the parents have in fact been learned by the child.

The degree of success on the prescriptions provides weekly feedback to the home teacher. Thus, the home teacher has current objective data on which to plan modifications in weekly curriculum goals. This in turn increases the likelihood of the parent and the child succeeding on the prescriptions for the coming week.

Thus, the Portage Project is a home teaching program attempting to directly involve parents in the education of their children by teaching parents what to teach, how to teach, what to reinforce, and how to observe and record behavior.

Rationale For The Home Based Program

As children were being identified it was clear that classroom programs could not be provided due to the cost and responsibility of transporting very young handicapped children great distances. In addition, even when several children were identified within a smaller geographical area, i.e., one school district, the variance in chronological ages, functioning levels and handicapping conditions precluded establishing classroom programs. In addition, classroom programs would severely limit parent involvement due to the geographical and psychological distances between home and school. Thus, a major program decision was made: All instruction would take place in the parent and child's natural environment — the home.

Having now experienced this rather unique delivery system, the staff of the Portage Project believes there are inherent *educational* advantages utilizing the home-based precision teaching model — in addition to the practical aspect of not having to transport children and provide a center (thus reducing program cost by more than half).

1) *Learning is occurring in the parent and child's natural environment,* therefore, the typical problem of transferring back into the home what has been learned in a classroom or clinic does not exist.
2) There is *direct and constant access to behavior as it occurs naturally.* This is more likely to result in curriculum goals that will be functional for the child within his own unique environment. In fact, the differences in cultures, life styles and value systems held by the parents are incorporated into curriculum planning, since the parents are the final determiner of what and how their child will be taught.
3) It is more likely that *learned behaviors will*

generalize and be maintained if the behaviors have been learned in the child's home environment and taught by the child's natural reinforcing agent — his parents.

4) If instruction occurs in the home there is *more opportunity for full family participation in the teaching process.* Father, sibling and extended family involvement becomes a realistic and obtainable goal.
5) There is *access to the full range of behaviors,* many of which could not be targeted for modification within a classroom, such as temper tantrums which only occur in the home or the child who crawls in bed with mom and dad each night.
6) It is hypothesized that *the training of parents,* who already are natural reinforcing agents, *will provide them with the skills necessary to deal with new behaviors when they occur.*
7) Finally, since the home teacher is working on a one to one basis with the parents and child, *individualization of instructional goals* for both *is an operational reality.*

Referral Sources

Information concerning the availability of the Project is disseminated to community resources throughout the district. The home teachers are responsible for personally contacting professionals within their assigned geographical area for the purpose of continually seeking new referrals.

County health nurses, social workers, physicians, local guidance clinics and school personnel within the twenty-three school districts have been major sources of referral. Nearby diagnostic and evaluation centers also refer children to the Project. Public service announcements on local radio stations and newspaper articles describing the project have brought additional referrals, many from parents themselves.

Brochures describing the Project have been left in doctors', dentists' and chiropractors' offices. Many beauty shops and grocery stores have bulletin boards on which is a Project brochure. Medical diagnosis is not a prerequisite for child referral, thus referrals are welcome from anyone. Since there was not a complete or accurate listing of preschool handicapped children residing within the area at the time of Project initiation, referrals from every possible source were sought.

Identification and Screening

Each child is screened for Project eligibility by the home teacher who serves the geographical area in which the family resides.

The home teacher contacts the parents and makes an appointment to come to the home to explain the Project and to meet and screen the child. *Project eligibility is partially determined by the child's functioning level in five developmental areas: self-help, motor, socialization, cognitive, and language.* If there is a significant lag between chronological age and functioning level in any of the areas, the child qualifies for the program. Children with observable disabilities — medical, physical or behavioral automatically qualify for service. Additional factors are also considered. A six month old child who is functioning normally will be considered for service if there are siblings attending special education classes, if the parents have attended special education classes or if there are other reasons for considering the child as high risk. Additionally, the Project has never refused service because a child had too many handicaps or had handicaps of too great a degree.

The screening instrument, the Alpern-Boll Developmental Profile (Alpern-Boll, 1972) as well as additional testing is administered in the home in the presence of the parents utilizing their knowledge of the child. If the child qualifies for service, and the parents agree to be in the program, the child's name is then referred to the multidisciplinary team from the school district in which the child resides. If the team agrees that the child has exceptional educational needs and that the Portage Project can best meet these needs, then that school district contracts with the agency to serve the child through the Portage Project. (For the past two years, local school districts and the Wisconsin Department of Public Instruction, Division for Handicapped Children have assumed financial responsibility for direct services.)

Assessment and Curriculum Planning

The Alpern-Boll Developmental Profile is administered to all the children. This is also the screening instrument referred to earlier. This instrument is administered as a parent questionnaire together with direct observation of the child's behavior, when possible. Intelligence tests have also been administered for the purpose of further documenting individual and group gains to assess program effectiveness. It is anticipated that these will no longer be used. The staff believes that the only purpose for testing should be to program curriculum more effectively for children. Thus, tests will be selected and administered solely for this purpose. Stress will continue to be given to informal assessment which includes observation and

Age Level	Card	Behavior	Entry Behavior	Date Achieved	Comments
	55	Counts to 10 objects in imitation		2 / 4 / 76	
	56	Builds a bridge with 3 blocks in imitation	✓	/ /	
	57	Matches sequence or pattern of blocks or beads	✓	/ /	
	58	Copies series of connected V strokes VVVVVVVVV	✓	/ /	
	59	Adds leg and/or arm to incomplete man	✓	/ /	adds facial features
	60	Completes 6 piece puzle without trial and error		2 / 4 / 76	
	61	Names objects as same and different		/ /	can point - not name
	62	Draws a square in imitation		3 / 11 / 76	
	63	Names three colors on request	✓	/ /	red, yellow, blue
	64	Names three shapes, □, △, and ○		/ /	△ not consistent
4-5	65	Picks up specified number of objects on request (1-5)		/ /	no concepts yet
	66	Names five textures		/ /	
	67	Copies triangle on request		/ /	
	68	Recalls 4 objects seen in a picture	✓	/ /	ok
	69	Names time of day associated with activities		/ /	
	70	Repeats familiar rhymes		/ /	
	71	Tells whether object is heavy or light (less than one pound difference)		/ /	
	72	Tells what's missing when one object is removed from a group of three		/ /	
	73	Names eight colors		/ /	
	74	Names penny, nickel and dime		/ /	names penny
	75	Matches symbols (letters and numbers)		/ /	
	76	Tells color of named objects		/ /	
	77	Retells five main facts from story heard 3 times		/ /	
	78	Draws a man (head, trunk, 4 limbs)	✓	/ /	see cognitive 59
	79	Sings five lines of song		/ /	
	80	Builds pyramid of 10 blocks in imitation		/ /	
	81	Names long and short		/ /	

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Age	#	Behavior	Entry Behavior	Date Achieved	Comments
	82	Places objects behind, beside, next to		/ /	
	83	Matches equal sets to sample of 1 to 10 objects		/ /	
	84	Names or points to missing part of pictured object		/ /	
	85	Counts by rote 1 to 20		/ /	
	86	Names first, middle and last position		/ /	
5-6	87	Counts up to 20 items and tells how many		/ /	
	88	Names 10 numerals		/ /	
	89	Names left and right on self		/ /	
	90	Says letters of alphabet in order		/ /	
	91	Prints own first name		/ /	
	92	Names five letters of alphabet		/ /	
	93	Arranges objects in sequence of width and length		/ /	
	94	Names capital letters of alphabet		/ /	
	95	Puts numerals 1 to 10 in proper sequence		/ /	
	96	Names position of objects first, second, third		/ /	
	97	Names lower case letters of alphabet		/ /	
	98	Matches capital to lower case letters of alphabet		/ /	
	99	Points to named numerals 1 to 25		/ /	
	100	Copies diamond shape		/ /	
	101	Completes simple maze		/ /	
	102	Names days of week in order		/ /	
	103	Can add and subtract combinations to three		/ /	
	104	Tells month and day of birthday		/ /	
	105	Sight reads 10 printed words		/ /	
	106	Predicts what happens next		/ /	
	107	Points to half and whole objects		/ /	
	108	Counts by rote 1 to 100		/ /	

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recording of how a child accomplishes a task, or why he fails to accomplish it. Behavioral checklists will continue to be administered to aid in determining each child's present behavioral skills.

To facilitate planning for individual children, the Project staff has devised the *Portage Guide to Early Education* (Shearer, Billingsley, Frohman, Hilliard, Johnson, and Shearer, 1972). The guide is in two parts: a) *a Developmental Sequence Checklist,* which lists sequential behaviors from birth to five years of age in five developmental areas — cognitive, language, self-help, motor, and socialization (See Figure 1); b) *a set of Curriculum Cards* to match each of the 450 behaviors stated on the Checklists, using behavioral objectives to describe the skill and suggesting materials and curriculum ideas to teach each of these 450 behaviors (See Figure 2).

The Checklist is used to pinpoint the behaviors the child already exhibits in the five developmental areas. The behaviors on the Checklist that indicate emerging skills (those unlearned behaviors immediately following learning behaviors) are those that the home teacher may wish to target for learning. The numbered behavior can then be referred to in the deck of cards which state the goal in behavioral terms and suggest materials and methods for teaching the skill. These materials can only serve as a guide for the home teacher. Fully 50% of behaviors actually prescribed for children are not to be found in the Checklist; but they may well be a behavior leading to a long term goal which may be listed in the Checklist. Prescriptions are written with the goal that the parent and child will succeed on each prescribed task within one week. Thus the behaviors listed on the Checklist should often be thought of as long term goals which need to be divided into smaller behavioral segments. These can then be chained together to achieve the long term goal. Thus the child determines the curriculum, not the Checklist.

Following both formal and informal assessment, the home teacher often suggests three or four behaviors that are emerging and could be prescribed. The parents are given the choice as to which behavior they would like to target first.

The chosen goal, stated as a behavioral objective, together with directions, is then written on an activity chart by the home teacher and presented during the next home visit. As parents experience success and gain confidence in their ability to teach their child and record his behavior, prescriptions are gradually increased to three and four per week. These activities are often in several areas of development. For instance, the parents might be working on reducing tantrums, buttoning and counting objects all within the same week.

The Home Teaching Process

The home teacher writes up an activity chart incorporating the parents selection of targeted behavior (See Figures 3 and 4). Again the most important point is for the home teacher to break tasks down and prescribe only those that can be achieved within one week. This provides the parents with rapid reinforcement since what is learned by the child is a direct result of parental teaching. The directions are written so that the parents will have no difficulty understanding them, should they need them to refer to during the week. Recording is always uncomplicated and usually involves recording frequency counts, especially in the beginning.

First the home teacher introduces the activity to the child and records baseline data — the frequency of correct responses prior to instruction. This data is recorded on the activity chart. The home teacher then follows the directions he/she has written on the chart and begins the teaching process. The home teacher thus is modeling teaching techniques for the parents, showing them what to do and how to do it. After several opportunities, the parent takes over and works with the child modeling for the home teacher. The home teacher then is able to offer suggestions and reinforcement which increases the likelihood that the parents will record during the week.

Every attempt is made to utilize materials available in the home, however, there are times when materials are brought in and left for the parents to use.

Throughout the visit the home teacher stresses the importance of working with the child during the week. The home teacher leaves his/her home and office phone number with the parents and encourages them to call if any question or problem arises during the week. When the home teacher returns the following week, postbaseline data is collected on the previous week's activities. This helps the home teacher validate the accuracy of the parent's recording, provides the teacher with feedback concerning the degree of success achieved by the child and the child's readiness for the next sequential step. Based on this data, the home teacher alters the previous prescriptions or introduces new activities beginning with taking baseline data. And so the cycle is repeated. At the completion of each home visit, the parents write an evaluation of the week's progress, which often serves as an additional source of information for curriculum planning and modification.

This is the sequence of the home visit process. However, in reality, in the beginning, intermediate and/or additional steps are sometimes necessary to the parent teaching process. Parents are not the same, thus it

FIGURE 2

Two examples from the card deck of the Portage Guide to Early Education (revised edition)

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AGE 3-4

TITLE: Copies series of connected V strokes VVVVVV

WHAT TO DO:

1. Draw a series of V strokes. Encourage the child to trace over the letter first with his finger and later with a crayon or pencil. Help by guiding his hand.
2. Have him draw with you making one line at a time.
3. Make a row of connected V strokes. Then have the child draw more rows as you give him verbal directions "up, down, up, down."
4. Have child make a row of V strokes on paper. When he finishes make it into a picture of mountains, grass, trees, etc. for him.

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cognitive 61

AGE 3-4

TITLE: Names objects as same and different

WHAT TO DO:

1. Put 3 sets of two identical items in a box, (two forks, two blocks, two combs). Ask child to find two things that are the same in the box.
2. Repeat above activity using pictures or textures.
3. Use assortment of paired items telling the child they are the same. Mix them up and tell the child they are different. Present pairs of same and different items to child and have him tell you if they are the same or different.
4. Help the child by giving him clues of the first sound of the word. Say, "These are the s-s-s." Let child finish word.
5. If child has difficult, initially ask him, "Are they same or different?" Gradually fade this and just ask "Tell me about these."

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FIGURE 3
Example of complete activity chart

ACTIVITY CHART

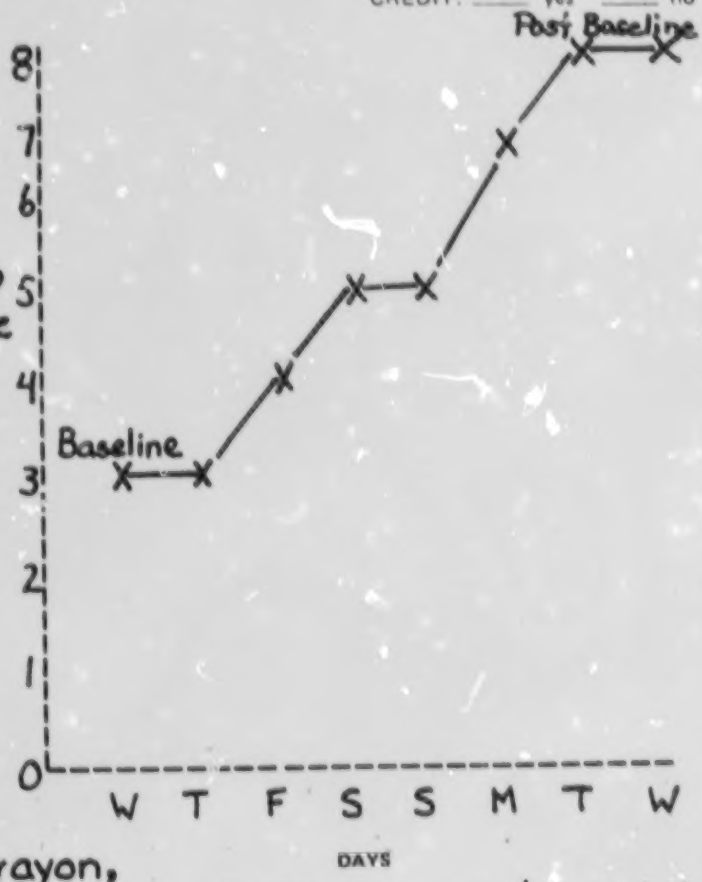
CREDIT: ____ yes ____ no

Child's Name Lonny

Home Teacher's Name Susan

Week of December 10

BEHAVIOR: Lonny will grasp a large crayon and while holding it correctly will trace over a horizontal line. 8 trials/day



DIRECTIONS:

Use a large sheet of paper and with a crayon, make a line across the paper. Tell Lonny to watch you – using a crayon of another color trace over the line in one continuous movement. Then give Lonny the crayon and tell him it's his turn. Praise him as he traces and clap your hands when he finishes. If he has difficulty put your hand over his to guide him – praise, but only clap and record success if he traces over the line without your help.

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FIGURE 4

Example of complete activity chart

ACTIVITY CHART

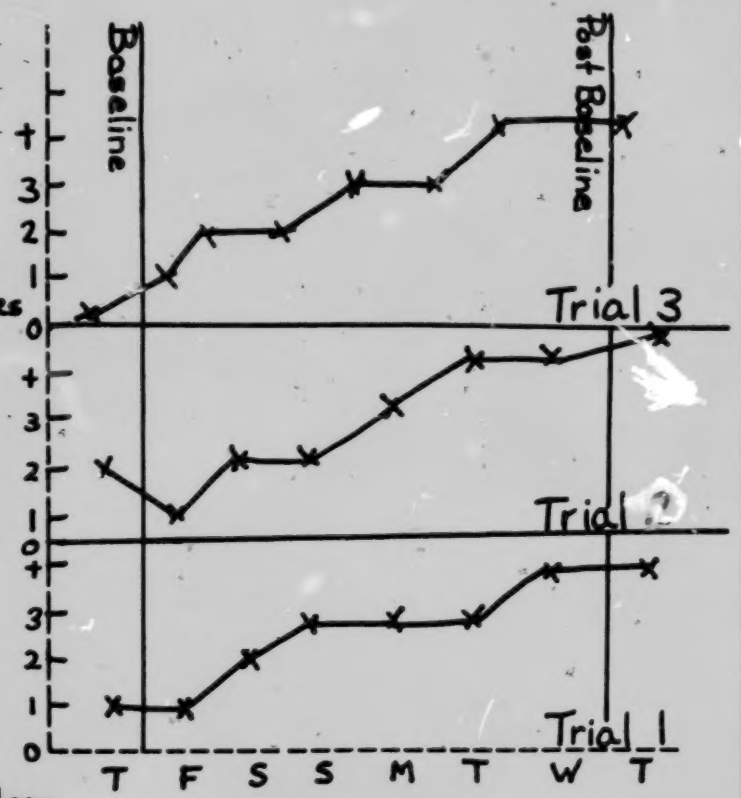
CREDIT: ____ yes ____ no

Child's Name Robby

Home Teacher's Name Kathy

Week of March 10

BEHAVIOR: Robby will crawl forward on hands and knees using left-right movement with stomach off floor (towel for support)



DIRECTIONS:

Place a goodie on the floor about 1 foot in front of Robby. Help position him by putting his hands in front of him. Then take the beach towel and place it under his stomach and pull up holding on to the ends of the towel until he's on his hands and knees. Encourage him to move towards the goodie. Praise each movement forward and as he gains in skill, increase the distance between Robby and the treat. Reward with treat when he reaches it. Practice 6x each day but just record number of feet crawled forward on the first 3 trials.

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is as important to individualize the teaching process for them as it is for their child.

Parents have successfully participated in the Project who are themselves retarded (activity charts are not used, however the parents still recorded utilizing adaptations in the charting system).

Babysitters and other caretakers have taught children and the children's gains have been significant. Parents who, prior to Project involvement, said they had given up trying to teach their child anything have, in fact, taught their child a great deal. (Readers are referred to a parent monograph to be published by Technical Assistance Development System, University of North Carolina for a detailed description of the Project's Parent Training Program.)

Staff Training

The Project staff consists of special educators, speech clinicians, psychologists and paraprofessionals. However, *all* staff members are first home teachers. That is their behaviorally defined role — regardless of professional background or additional responsibilities. Professional and paraprofessional home teachers have precisely the same roles and responsibilities including case finding, assessment, curriculum planning and data keeping. A study was conducted comparing gains made by children served by paraprofessional and professional home teachers. Interestingly, the data indicates that paraprofessionals did slightly better — though the amount of gain was not statistically significant (Schortinghuis and Frohman, in press). New staff are provided with indepth preservice training conducted by experienced home teachers (Shearer, 1970). This training usually takes two weeks and is individualized for each new staff member depending on their entry knowledge. Approximately half of the training occurs by observing an experienced home teacher in all project components — particularly assessment, the home teaching process and curriculum planning.

One half day is set aside each week for inservice training. Specific problems encountered during the week are discussed. The entire staff is then able to serve as a valuable resource to each other. The home teacher selects the suggestion that will be carried out the following week, and this is recorded. Two weeks later the home teacher reports back to the group and, if necessary, additional modifications are made until success is achieved. Weekly staff meetings, for the purpose of problem solving, is particularly vital when this delivery system is utilized. The home teachers are "on the road" each day and do not have a teacher down the hall or a principal to provide immediate help as problems arise. Thus weekly meetings provide the home teachers with suggestions for curriculum modification that can be utilized the following week. As one home teacher said, "Frustration never lasts longer than Friday."

Data Collection

The *activity charts* that have been left with the parents are collected at the end of each week. These charts together with a *progress report* are turned in weekly. The progress report lists the prescribed behaviors from the previous week and the home teacher records whether the child has attained criteria needed before success can be recorded. Prescriptions for the coming week are also recorded on the weekly progress report. A *behavioral log* is kept for each child (See Figure 5). All activities and the date they were prescribed are written on the log. Each success and the date the prescription was achieved is recorded according to developmental area. This log provides an ongoing record of every behavior prescribed, each success achieved and the duration of each prescription. Additionally this log also provides a percentage of success achieved by parent, child and home teacher. The continual input of data allows supervisory personnel and each home teacher to spot problems quickly, thus providing a continual feedback system for program monitoring and modification (ABT Associates, Inc., 1972).

Use of Community Resources

The Portage Project is an educational model. The only reason for being in the home is to teach the parents to teach the child. Yet, often, the parents present other problems to the home teacher for solution. The teachers' expertise is in *teaching* not social work, counselling, psychology, psychiatry, etc., but it *is* their responsibility to be aware of community resources that can serve these other needs. It then must be the parent's decision to contact or not to contact the suggested sources. The option and decision must be left with the parents.

Approximately 60% of the children served are seen periodically at outpatient or diagnostic evaluation centers. *The home teacher accompanies the parent and child on these clinic visits* to illicit suggestions for curriculum from clinic staff and with the parent, to inform the staff of the progress of the child. Two additional spin-offs of this involvement have included: 1) an increase in referrals from the hospitals and clinics, and 2) perhaps more important, parents and children were no longer waiting for hours to be seen for a few minutes.

The Portage Project staff does not employ a nutritionist,

FIGURE 5

Example from behavioral log kept on each enrolled child

BEHAVIOR EVALUATION Period 9/3/73 - 10/16/73

Child Jim Teacher Jean

Specific Goal	Date	Date Accomplished					
		Cognitive	Communicative	Motor	Self-Help	Socialization	Parent/Child
attends to tasks - 10 minutes	9/3					10/2	
places O+□ in formboard with help	9/3	9/10		9/10			
places O+□ in formboard no trial+error	9/10	9/17		9/17			
strings 5 beads in 2 minutes - no aid	9/10			9/17			
stands on 1 foot 5 seconds with support	9/10			9/17			
stands on 1 foot 5 seconds no support	9/17			10/2			
names 7 action pictures in imitation	9/17		9/24				9/24
names 7 action pictures no model	9/24		10/2				
names pictures using 3 word phrase	9/24						
puts on pants - no aid	10/2				10/9		
hops on 1 foot in place with support	10/2			10/9			
unbuttons 4 buttons - pushed ½ way thru hole	10/2			10/16	10/16		
unbuttons 4 buttons - no aid	10/9			10/16			
traces letters M+N with finger	10/9	10/16					
draws letters M+N by connecting dots	10/9	10/16					
draws □ by connecting 4 dots	10/16	10/23		10/23			
Total							

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a social worker, an occupational therapist, a nurse, a psychiatrist or a physical therapist. Although all of these people could have been hired while the Project was federally funded, the cost of such personnel would have drastically increased cost thus reducing the likelihood of program continuation with state and local monies. Additionally, model replication in other rural areas would be severely limited due to cost. It is believed that the utilization of existing community resources can best serve the staff, the parents, and the children's needs in a cost effective manner.

Project Evaluation Results

The average IQ of the children in the Project was 75 as determined by the Cattell Infant Test and the Stanford-Binet Intelligence Test. Therefore, it would be expected that on the average, the normal rate of growth would be 75 percent of that of the child with normal intelligence. Using mental ages, one would expect that the average gain would be about six months in an eight month period of time. The average child in the Project gained 15 months in an 8 month period of time.

Approximately sixty percent of the parents have been able to fully plan curriculum and write up activity charts without teacher assistance. This occurs as parents demonstrate readiness to take more of an active role in planning. Access to the curriculum guide and any other planning aids are made available and any help needed in writing up activity charts is given during the home visit. Gradually the home teachers visit less frequently as the parents assume responsibilities in the planning as well as the teacher phase of the program.

A significant number of parents have reported that they are using the teaching techniques learned from the home teacher to change behaviors of other family members, in addition to the targeted child.

Children who, because of age, remained in the Project after one year were retested in September, and these test results were compared to the scores achieved the previous June. Although it would be expected that some regression would occur, there was no significant difference in the scores. This may indicate that the parents continued to work with and reinforce behaviors even though the home teacher was no longer making visits.

An average of 128 prescriptions were written per child. The children were successful on 91 percent of the prescriptions written by professional and paraprofessional staff.

An experimental study was conducted involving randomly selected children attending local classroom programs for culturally and economically disadvantaged preschool children. The Stanford-Binet Intelligence Scale, the Cattell Infant Scale, and the Alpern-Boll Developmental Skills Age Inventory were given as pre and post-tests to both groups. In addition, the Gessell Developmental Schedule was given as a post-test to both groups. Multiple analysis of covariance was used to control for IQ, practice effect, and age. The greater gains made by the Portage Project children in the areas of mental age, IQ, language, academic and socialization skills were statistically significant, as compared to the group receiving classroom instruction (Peniston, 1972).

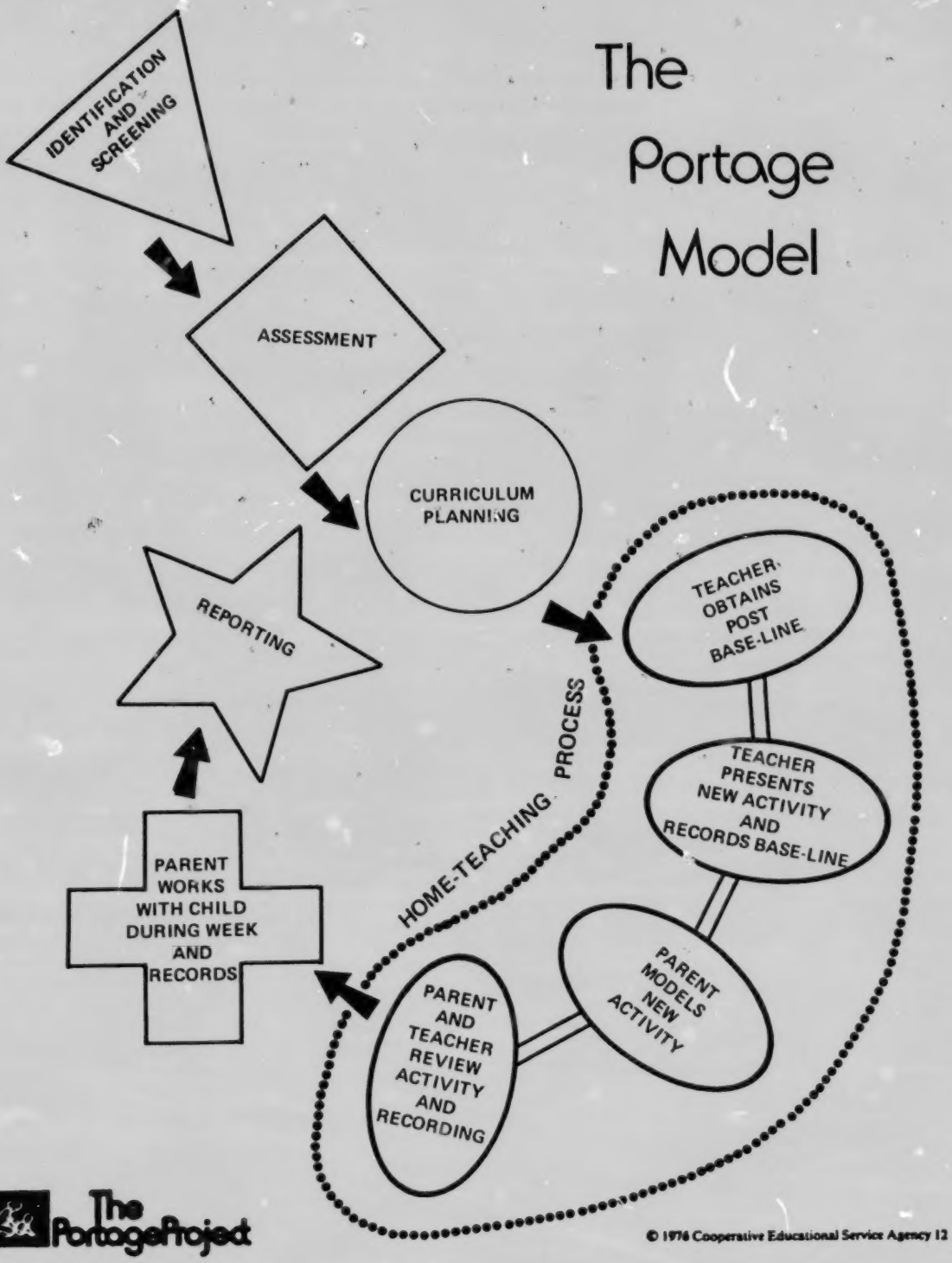
Using the children as their own control, test results and behavioral gains were compared and measured. The mean gain in IQ scores on the Alpern-Boll Developmental Skills Age Inventory was 13.5 and was statistically significant beyond the .01 level. The mean gain in IQ scores on the Stanford-Binet was 18.3 and was statistically significant beyond the .01 level (Shearer and Shearer, 1972).

Five years ago, 55 children and their families were provided service through federal funding. This year, 150 children are being served with state and local monies.

Cost of Program Services

School districts contract on a per pupil basis with the Cooperative Educational Service Agency No. 12. Presently, the gross cost charged by the Agency to the school districts is $622 per year per child. The State Department of Public Instruction reimburses each school district 70% of teachers' salaries. Thus, local districts pay about 50% of total Project cost — approximately $300 per year per child. It is anticipated that the cost will continue to reduce as more children are served by the Project.

The Portage Model



The Portage Project

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The Portage Model

The Portage Model incorporates the major components of the original Portage Project. These include:

1) an educational program which takes place in each enrolled child's home implemented by home teachers who visit each family weekly
2) assessment using the Alpern-Boll Developmental Profile and the Portage Guide to Early Education if appropriate, plus any other assessment instruments necessary to plan curriculum
3) implementation of the precision teaching model
4) curriculum planning with the expectation that children will achieve each prescribed goal weekly
5) weekly staff meeting for the purpose of problem solving and curriculum modification

Replications

Funding from the Bureau for the Education of the Handicapped, O.E. to the Portage Project has provided training and technical assistance to various additional demonstration sites throughout the nation for replicating the Portage Model. The sites were selected based on a variety of administrative and staffing patterns and funding sources including Head Start, public schools, state institutions, and private facilities. Children served in the replications included the handicapped, the non-handicapped and those classified as high-risk. Rural and urban sites are included.

A contract between the Portage Project and the replication agency details the commitments of both programs to provide quality service to children. Primarily the Portage Project provides training to the replication site which includes a site visit to the agency for one week of training in the various components of the Portage Model. Frequently, staff from the replication site visit the Portage Project and go on home visits to see the Project model in operation. At least two additional follow-up visits to each replication site are scheduled to observe the program in operation and to help plan for the coming year. The replication site agrees to share pre and post data with the Portage Project in order that Outreach efforts and their results can be reported to BEH and disseminated widely. Each contract specifies that after one year of training and technical assistance, the replication site will be fully operational.

These demonstration replications will themselves serve as models in their regional area. It is planned that staff from these replication sites will provide training and technical assistance to additional programs in their region who wish to initiate the Portage Model.

It is hoped that with continued BEH funding for model implementation many children, presently not receiving services will receive quality programming to meet their special and exceptional educational needs — and, as vital, to increase training for parents — the child's first and potentially his best teacher.

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A HOME BASED PARENT TRAINING MODEL

Marsha S. Shearer

The basic operational premises of the Portage Project, as they relate to parents are:

1) Parents care about their children and want them to attain their maximum potential, however great or limited that potential may be
2) Parents can, with instruction, modeling, and reinforcement, learn to be more effective teachers of their own children
3) The socio-economic and educational or intellectual levels of the parents do not determine either their willingness to teach their children or the extent of gains the children will attain as a result of parental instruction
4) The precision teaching method is the preferred learning model since feedback is provided daily to parents and weekly to staff, thereby reinforcing both when goals are met. Moreover, the method provides a continual data base for curriculum modification thus maximizing the likelihood of success for parents and children

Overview And Rationale Of The Home Based Program

The Portage operates administratively through a regional educational agency serving twenty-three districts in south-central rural Wisconsin. The Project presently serves 140 children, birth to school age, who have been identified as being handicapped in one or more developmental areas. Any preschool child, with any type or severity of handicap residing within the 3,600 square mile area served by the agency, qualifies for the early intervention project.

In the Portage Project there is no classroom program. Instead of having children come into a center, we use "home teachers" to visit in every child's home where they instruct the child's parents how to teach their own child. So our model is completely home-based, rather than center-based and parents with the help of home teachers do all the teaching of their own children.

Three practical factors influenced our decision to have an exclusively home-based program. The first was that we were dealing with such a large geographical area that the cost and responsibility of transporting very young handicapped children great distances was prohibitive.

Second, even when several children were identified within a smaller geographical area, such as one school district, the variance in chronological ages, functioning levels, and handicapping conditions precluded the possibility of establishing classroom programs. Finally, classroom programs would have severely limited parent involvement because of the geographical and psychological distances between home and school. On the basis of these factors we decided that all instruction would take place in the parent and child's natural environment — the home.

To implement this program, a home teacher is assigned to each child and family. This educator, who may be a trained professional or a trained paraprofessional, visits each of the assigned fifteen families one day per week for one and a half hours. Individual curriculum is prescribed weekly based on an assessment of each child's present behavior in the areas of language, self-help, cognitive, motor, and social skills. Utilizing the parents as teachers, the Portage Project follows the precision teaching model which is comprised of these elements:

At least three behavioral goals are selected for the child to learn each week. The goals and criteria for accomplishing them are chosen so that the child, and thus the parent, will achieve success within a one week period of time.

Baseline data is recorded by the home teacher on each new task prior to instruction to the parent as an additional check on the readiness of the child to proceed with other learning activities.

The parents implement the actual teaching process itself, including reinforcement of desired behavior and reduction or extinction of behavior that interferes with learning appropriate skills.

The home teacher records post-baseline data one week after the baseline is taken to determine if the prescribed skills have, in fact, been learned.

The purpose of the weekly home visit is to instruct the

parents what to teach, how to teach, what to reinforce, and how to observe and record behavior. The home teacher instructs the parents (or siblings or parent substitute) during the home visit. Then, the parents or substitute teach the child and record his progress daily throughout the following week.

In this model are certain practical advantages — not having to transport children or provide a center facility — that reduce the cost of the program by more than half. But even more importantly, there are inherent advantages that the Portage Project staff has experienced in the home-based, precision teaching model. These advantages are based on involving the child's first, and potentially his best teachers — his parents. The educational assets that we found are:

- The parent teaches the child in their natural environment. Therefore, they do not have the problem of transferring learning into the home as they would if the child were in a center-based program.
- This model is totally dependent on parent involvement for success. Since one and a half hours one day per week is not a sufficient amount of time for a child to learn developmental skills from the home teacher, parents must be taught to teach their own child between home visits. Thus, training parents is more than an adjunct — it is absolutely mandatory.
- Another major advantage in using the home-based precision teaching model is that the home teacher and the parents have direct access to the child's behavior as it occurs naturally. This situation engenders realistic curriculum goals that will be functional for the child within his unique environment. In fact, the differences in cultures, life styles, and value systems of parents are incorporated into curriculum planning, since the parents determine what and how their child will be taught.
- It is more likely that the skills that the child learns will generalize to other areas and be maintained if the skills have been learned in the child's home environment and taught by the child's natural reinforcer — his parents.
- Father, sibling, and extended family involvement becomes a realistic and obtainable goal. When instruction occurs in the home there is more opportunity for full family participation in the teaching process.
- There is access to the full range of the child's behavior, such as temper tantrums which only occur in the home or hearing from the parents that their child is crawling into bed with them each night. Much of this behavior could not be targeted for modification within a classroom. Finally, since the home teacher is working on a one to one basis with the parents and child, individualization of instructional goals for both is reality rather than an idealized goal.

Parent Participation In The Intake And Assessment Process

After a child has been referred to the Project, (parents can and often do refer their own children) a home teacher contacts the parents and makes an appointment to visit the home to explain the project and meet and screen the child.

It is at this time that parents are told that they will teach their own child and that they will learn how to teach him by observing the instruction given by the home teacher. The following are examples of a few typical reactions of parents and resultant responses of the home teachers at this point.

- Parent: "Oh, I've tried teaching Mary, like how to walk, but she can't even crawl yet." Teacher: "Maybe teaching Mary how to crawl, if she's ready, would be a good place for us to begin."
- Parent: "We're not trained teachers; we can't do anything as important as that." Teacher: "You've been teaching Jim all along. Just look at all the things he can do. He makes sounds, he's beginning to feed himself, he matches objects, he points to body parts. You've taught him a lot!"
- Parents: "We've given up trying to accomplish anything. He just drives us crazy. You teach him and leave us out of it." Teacher: "I can't. I need you and so does Chris. While I'm here, I'll show you what to do and how to do it. I'm not going to ask you to try anything without showing you first that it's going to work. So let's give it a try together."
- Parent: "Oh, I don't have time to teach Todd." Teacher: "You do spend some time with Todd each day don't you? Okay, all I'm asking is that you spend that time working on these activities. I promise they won't take more than a half hour a day. And yell any time if you think it's too much."
- Parent: "I have no patience. I don't think I can do it." Teacher: "Sure you can, I'll give you all the help you need. Give the program a try for a month or so. If you don't think we're getting anywhere, you're free to withdraw at any time. But give it a try first."
- Parent: "I work all day, don't get home till 6:00 and by then I'm exhausted. I fix dinner for Dawn then she goes to bed. There's just no time for me to work with her." Teacher: "I'll be happy to work with Dawn's babysitter and I'll call you each week to keep you

posted so you'll know how she's doing and what to work on during the weekend."

But the most frequent reaction to our approach to parents is, "We've never gotten any practical help till now. Every time I take her in for an evaluation, we're told nothing. Oh, they tell us Penny will never walk and that she might be blind. But no one has ever told us what we can do to help."

After five years of working with nearly four hundred parents, we have found that the most frequent question asked during the initial visit is, "What can I do with my child; how can I help him learn?" Parents are accustomed to hearing what their child isn't doing, so it isn't surprising that they stress the negative too. And this brings us to the assessment process.

The child is screened during this first visit to determine project eligibility. All screening is done in the home, with parental consent and their help by contributing their knowledge of the child. The screening instrument (Alpern and Boll, 1972) which is also used as one of the pre-post measures, is administered as a parental questionnaire together with direct observation of the child's behavior, when possible. In fact, it couldn't be accomplished without them. We have found that the results are likely to be more reliable than if testing were done without the benefit of parent involvement because parents know their children best. Also, since the assessment instruments are administered on the parent's and child's "home ground", results are likely to be more accurate than if the assessment were attempted in a strange environment.

The assessment of the child also becomes the first step in parent training. During this process questions are asked by the home teacher concerning the child's present behavior in five different areas of growth and development. Many parents voice surprise at how much they know about their child in some areas and how little they know about their child in others. Parents make general remarks like: "I must have seen Johnny go up and down steps hundred of times, but I just haven't noticed if he does it with two feet on the same step or if he walks down like I do." If the parent is unsure of the answer to any question, the home teacher tests the child directly.

Many parents verbalize that they don't know if their child can cut with a scissors or ride a trike because they haven't given him the opportunity. Often, just asking the parents the questions gives them the clue to try. One parent called the office two days after initial assessment to report that not only could Suzie now cut paper following a straight line she also took advantage of her new-found skill and gave the family dog a haircut! (Fortunately, the mother was laughing.)

In addition to the Alpern-Boll, the Portage Checklist is also completed (Shearer, Billingsley, Frohman, et al 1972). A complete description of this instrument along with descriptions of other project components can be found elsewhere (Shearer and Shearer, 1972; Frohman and Schortinghuis, in press). This instrument lists a series of behavioral sequences from birth to age five encompassing self-help, motor, language, socialization and cognitive skills. This checklist aids the parent and teacher in breaking developmental tasks into smaller steps and then assessing whether the child exhibits the behavior on entry into the program. What the child can already do determines what he's ready to learn next. The results of the assessment are discussed with the parents. All of the parents' questions regarding the assessment are answered honestly and in understandable language without psychoeducational jargon. When we discuss the assessment with the parent, we emphasize what the child can do. This is because the curriculum the parent will be asked to carry out will be based on what he is ready to learn next. The process itself sometimes makes parents aware of the accomplishments of their children. One father said, "You know, up to this point, all I've really noticed are all the things Ronnie can't do. Guess he's accomplished a few things after all."

After the assessment is completed the home teaching process begins. Based on the information in the assessment, the home teacher often points out three or four behavioral goals that are emerging. The parents are given the choice as to which behavioral goal they would like to target first.

Parent Participation In The Delivery Of Services — The Home Visit Process

The home teacher writes up an activity chart incorporating the parents' selection of behavioral goals (see Figures I and II). The most important point here is for the home teacher to break tasks down and prescribe only those which are most likely to be achieved within one week and can be achieved with high degree of probability. When success on these tasks is achieved the parents are immediately reinforced because what was learned by the child was a direct result of parental teaching. The directions are written in simple, clear language so that the parents can refer to them during the week. The parents are asked to keep simple records on the activity chart. At first recording is uncomplicated and usually involves frequency counts.

First the home teacher introduces the activity to the

FIGURE 1
ACTIVITY SHEET

ACTIVITY CHART

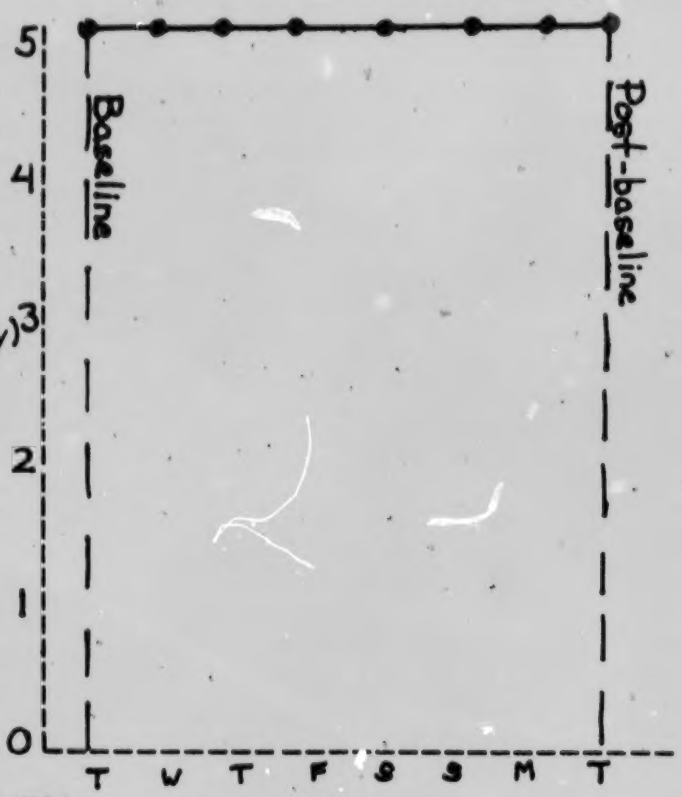
CREDIT: ____ yes ____ no

Child's Name Jill

Home Teacher's Name Susan

Week of September 18

BEHAVIOR: Mom will tell Jill which of 2 objects is big and which is little (5 min/day)



DIRECTIONS:

Use paired objects or pictures that are the same - except for size.

Talk with Jill pointing to and naming the objects that are big and little and encourage Jill to repeat the size word in imitation of you. Praise her each time she imitates. Use as many different examples of like pictures and objects as possible. Record the number of minutes you spend naming big and little each day.

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child and records the frequency of correct responses prior to instruction. This baseline data is recorded on the activity chart. The home teacher begins the teaching process by following the written directions on the activity sheet. The home teacher is thus modeling teaching techniques for the parents — showing them what to do and how to do it. After several trials, the parents model for the home teacher. Extra activity sheets are provided so the parents can practice recording the child's behavior as they work with him while the home teacher is still there. The home teacher then is able to offer suggestions and reinforcement that will maximize the likelihood that the parents will work effectively with the child during the week and that the child will succeed with the prescribed activity.

Throughout the visit the home teacher stresses the importance of working with the child during the week. The home teacher leaves his or her home and office phone number with the parents and encourages them to call if any question or problem arises during the week. The home teacher returns the following week to collect post-baseline data on the previous week's activities. This helps the teacher validate the accuracy of the parents' recording and provides the teacher with feedback concerning the degree of success achieved by the child and his readiness to proceed to the next sequential step. Based on this data, the home teacher prepares a new activity sheet. On this new sheet the previous prescriptions are altered or new activities are introduced. Baseline data is recorded and so the cycle is repeated. At the completion of each home visit, the parent writes an evaluation of the week's progress, which often serves as an additional source of information for curriculum planning and modification.

Every attempt is made to utilize materials available in the home; however, there are times when materials are brought in and left for the parents to use. This works well because parents take care of materials. During the past five years, only two percent of these materials have been lost or broken.

This is the basic sequence of the home visit process. However in reality, sometimes modification of the process are necessary. Parents are not the same, thus it is as important to individualize the teaching process for them as it is to do so with their child. The following are examples of how the process has been modified to accommodate individual differences among parents.

Parents Who Cannot Read or Write or Who Are Themselves Handicapped

One family had eight children, seven of whom were in special education classes. The youngest, a preschooler, was at home and had been referred to the Project by the county nurse. The father kept all intruders away from the house with a shotgun and greeted the home teacher in this manner; however, both parents listened to an explanation of the Project. The conversation took place on the wooden porch which apparently was not able to hold the weight, and it collapsed! The home teacher was asked to come back the next week and, possibly because there was no longer a front porch, she was invited into the house where she met and screened Joey. Based on the assessment it was determined that Joey was functioning at the "trainable" level. After some discussion, the parents agreed to participate in the Project and work with the child.

There were instances when the home teacher had to teach the mother the skill before she could teach it to her son. Sometimes the learning occurred simultaneously. For example, one mother and son learned to name and discriminate between colors together, and both were equally proud of their accomplishments.

Because an activity chart would be of no use to this family, the home teacher relied heavily on demonstrating the teaching process necessary to implement each prescription, and on parent modeling. Recording was done on masking tape that was taped on the kitchen table with one piece of tape representing each day of the week. Hash marks were drawn on the tape which indicated to the mother the number of times the activity was to be practiced. The mother circled a hash mark for each correct response. Two older siblings were interested in the activities so the home teacher involved them in the teaching process too.

After one year in the project, Joey was the first child in this family of eight who was able to enter kindergarten. Testing data indicated he was functioning within the normal range.

Parents Who Do Not Work With Their Child Between Home Visits

Annie, the target child, was especially low in language skills and so the home teacher wanted to acquaint the mother (this is a single parent home) with the importance of verbalizing to the child. The first prescription was, "Mom will read a story, five minutes in length, to Annie each day." The parent could simply record on the activity chart, "yes" she did read, or "no" she didn't. When the mother still hadn't accomplished the task two weeks later, the home teacher had to think of a system to motivate the mother to read to the child.

The prescription was modified the following week so

FIGURE 2
ACTIVITY SHEET

ACTIVITY CHART

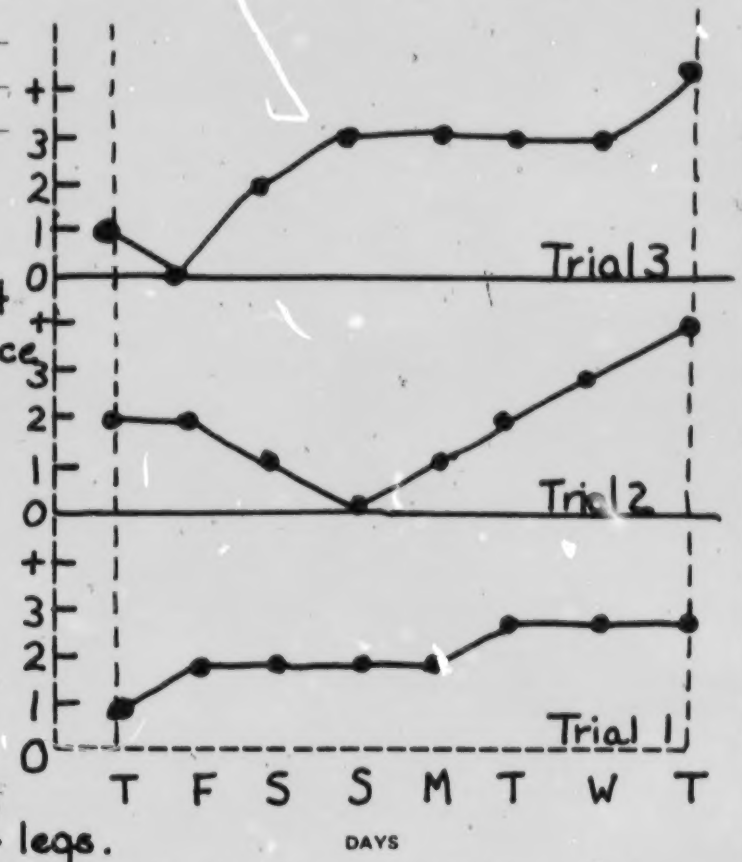
CREDIT: ____ yes ____ no

Child's Name Lonnie

Home Teacher's Name Helen

Week of December 10

BEHAVIOR: Lonnie will sit self-supporting without using hands for balance for 3 seconds.



DIRECTIONS:

Sit on the floor with Lonnie between your legs. Rather than let Lonnie rest against your stomach, place your hand against the small of her back. Give her a special toy like the 'Busy Box' to play with. When she appears to be supporting herself, reduce the pressure on her back. Count the number of seconds she maintains that position without using her hands (putting them on your leg) without back support. Talk to her as she sits. Practice 5 times a day, but just record the first 3 trials.

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that the mother would read a short story to the child daily. The home teacher put each story book in an envelope which also contained a small present for the mother, such as a comb or a small vial of perfume. She hoped that the present would motivate the mother to open the envelope, although this was no guarantee she would read to the child.

The home teacher began thinking of another kind of reinforcer for the mother. She knew that the home was lacking in many modern conveniences, like running water. To get water, the mother had to walk one mile every week with a sled or a wagon, depending on the weather, to a nearby tavern which was the closest water supply.

The real payoff was to come at the next home visit. The home teacher had told the mother that if Annie could recall two facts about each of the stories that had been read to her that she, the home teacher, would get the water for the mother that week. The mother worked with the child that week and Annie could recall the facts. The best thing that happened from our point of view was that the mother was so reinforced by her child's success that she no longer needed to be coaxed into working with her child. Three weeks later, the mother said, "It's okay now. You don't have to get my water. I want to work with Annie."

Parents Who Do Not Record

Although all the parents need to do is record the total number of correct responses on the activity chart, there are so many parents that do not record during the first month that a single example would not be instructive. However gadgets like clickers, golf counters, and knitting counters are especially helpful. Even though none of the parents' data is used to add to or modify prescriptions, (baseline and post-baseline data collected by the home teacher determines that) it can serve as a major motivator for the parents because they can see small gains that might otherwise go unnoticed. Extra praise and attention from the home teacher or staying for an extra cup of coffee have been used as a reward for the parent who records. In one case the home teacher had been trying, unsuccessfully, to get the parent to record and the parent had been trying, unsuccessfully, to get the teacher to buy panty hose. They came to a mutual satisfactory trade off — recording data for panty hose.

Some "How To's" Of Working With Parents

The Project has learned several important lessons, some of them the hard way, as they relate to working with parents. A few of these suggestions are directly related to working in homes. However, most would be applicable regardless of the instructional setting.

Set Weekly Curriculum Goals

Choosing the goals and writing the prescriptions are the most difficult tasks the teacher faces, and probably the most important. In planning individualized goals for a child and the parents, it is important that the chosen goal be one that can be achieved within one week. There may be times that this goal will not be met; however, it is extremely important that successes occur frequently and quickly, especially in the beginning. When the child succeeds, the parents succeed since they are the ones who are doing the teaching.

At this point the teacher knows from the assessment that the child, among other things, is not toilet trained, doesn't feed himself, has temper tantrums, doesn't imitate sounds, can't sort primary colors and can't hop. Where to begin? Begin where he is — with what he can already do. It really does help to look at the things the child can do, rather than the things he can't. He does stay dry for one and a half hours; he can hold a spoon, dip it and get it to his mouth with help; he does make vowel sounds and some consonant sounds spontaneously; he can sort blue plastic cars from blue plastic spoons; and he does respond to praise and smiles. Now, what could be appropriate beginning objectives that are likely to be achieved within a week? Here are a few possibilities:

- The family members will take Johnny into the bathroom with them and they will model toileting behaviors.
- The mother will place Johnny on the toilet every one and a half hours for no more than five minutes. If Johnny performs appropriately, he will be given praise and a happy face sticker to put on the bathroom door.
- The mother will put Johnny in training pants during the day (not diapers).
- Johnny will sort blue plastic cars and yellow plastic spoons into two groups.
- Johnny will dip his spoon into sticky cereal (oatmeal) without help, will hold spoon without help, and will guide spoon to mouth with minimum aid (slight pressure on his elbow).
- The mother will count the number of tantrums Johnny has each day (baseline information).
- The mother will imitate any sound Johnny makes and she will count the number of times Johnny imitates her.

- Johnny will stand on one foot without support for five seconds.

The choice of activities would depend totally on our mythical Johnny. He determines the curriculum. The choice, in the beginning, should be based as much on the likelihood of success as on the importance of the skill.

Show The Parent What To Do And How To Do It

In teaching any new skill, it is important to model the behavior that is expected. For instance, in teaching a child to sort colors, a teacher wouldn't say, "Okay Johnny, sort colors." The teacher would show him what to do by doing it herself. Adults being taught new skills also learn better when given concrete examples. For instance, a parent is much more likely to deal with tantrums in a certain way if shown how to do it rather than being told how to do it. This means that the teacher may have to instigate a temper tantrum and then show the parents how to handle it. This means that the teacher may have to instigate a temper tantrum and then show the parents how to handle it. The teacher finds out what typically sets Johnny off and then creates the same situation. If the technique suggested by the home teacher doesn't work, something else is tried until a technique is found that does work. In this way a technique that will work is discovered and the parents are not frustrated by trying something that won't work. Teachers need not be afraid of trying and failing in front of the parents. The teacher is showing the parents that it is alright to make mistakes as long as the prescription is modified to achieve success. The teacher then, is modeling problem-solving behavior for the parents. The moral then is: there is always a solution.

Have The Parents Practice Teaching The Skill

The purpose of the home visit is to instruct the parents to teach the child, and one condition necessary for the parent's learning is the opportunity to practice. After the parents have seen the teacher work with the child and succeed, they need to experience the same success, since there is a major difference in seeing an activity being taught and doing it yourself. Parents need to know they can teach effectively too in the presence of the teacher. Thus, parents will be more likely to carry out the activity when the teacher is not there. Also this provides an opportunity for the home teacher to spot problems quickly. For example, the parent might not let the child know when he is correct, or the parent might be giving too many cues or not enough. If these problems can be corrected before the teacher leaves, then the likelihood that the parents and child will succeed with the activity during the week is greatly increased.

Reinforce The Parents

Another condition necessary to learn new skills is reinforcement. Just as the child is more likely to perform actions that are reinforced, so are the parents. Let them know; tell them when they're doing it right and be patient. It is not reasonable to expect perfection from parents immediately. Sometimes the parent may have to break long-established behavior patterns of his own to be able to apply good techniques in teaching his child. For example, the parent may be used to doing things for the child that he can do for himself, ignoring "good" behaviors and attending to "bad" ones, or not talking to the child because he never responds anyway. It does take time, practice, and reinforcement to change old patterns, and parents should be praised for small improvements. Small improvements lead to big ones!

Individualize For Parents

Some parents have experienced so much failure when trying to work with their child in the past, that they do not want to try again. To change this "I give up" attitude to an "I did it!" attitude may mean that the home teacher must offer parents more tangible encouragements than praise. In one home, for example, the teacher and parent drank a beer together and socialized after the home visit if the child had accomplished the skill. (It was the home teacher's last visit of the day!)

This rather atypical example serves to show that in the beginning, praise alone may not be enough to motivate some parents. However, once parents see that they can succeed and that their child can learn as a result of their teaching, you can substitute praise for more tangible reinforcers. Success is the greatest reinforcer of all, but in some cases extraordinary measures need to be taken just to get the parents involved so they can experience success.

Involve The Parents In Planning

As the parents experience success in teaching their child, the home teacher should reduce her help and involve the parents in planning weekly goals. Thus, the parents do not become dependent on the teacher but become confident and self-reliant in planning the curriculum for their child as well as teaching it. Some parents will reach this stage six months after they begin in the program, and some after six years. The parents should be en-

couraged to take as much responsibility as they can, but the home teacher should always be ready to give support, reinforcement, help, and encouragement based on the parent's needs.

Evaluation Of Parent Participation

There are several ways to measure the degree of parent participation. One is to measure the progress of the children. One of the most traditional ways to do this is to compare I.Q. scores. The average I.Q. of the children in the project was seventy-five as determined by standardized intelligence tests. Therefore, it would be expected that on the average, the normal rate of growth would be seventy-five percent of that of the child with normal intelligence. One would expect that the average gain would be about six months in an eight month period of time. However, the average child in the project gained fifteen months in an eight month period. Although the home teachers did help the parents plan the curriculum, these gains in I.Q. could only have been attained through parental teaching.

Another way to evaluate the parents' effectiveness is to test the child after the summer vacation since the program does not operate during the summer months. Children who are too young to go to public school and remain in the project longer than one year are retested in September, and these test results are compared to the scores achieved the previous May. In the past there was no significant difference in the scores although some regression might have been expected. This indicates that the parents continued to work with the child and reinforce him even though the home teacher was no longer making visits.

Ninety children were served by the project last year and the frequency of parental recording over the year's period of time was ninety-two percent. An average of one hundred and twenty-eight prescriptions were written per child over a year's period of time. The children were successful on ninety-one percent of the prescriptions written. This indicates that the parents taught the children during the week, and that, based on post-baseline data taken by the teacher, the children did indeed learn.

The success of this model also can be measured by the ability of parents to plan curriculum without assistance. Approximately sixty percent of the parents have been able to plan curriculum fully and write up activity charts without teacher assistance.

Furthermore, we have found that a significant number of parents are using the teaching techniques learned from the home teacher to change the behavior of other family members, in addition to the targeted child's.

The Project has attempted to conduct surveys about the program after the program year ended to determine if a relationship existed between amount of gains made by the children and the parents' attitudes. However, the parent's comments were so positive that no relationship could be drawn. (Peniston, E., 1972).

We think that one of the most significant informal evaluations of our project was the fact that the parents fought so hard to make sure it was funded. Two years ago (before mandatory legislation was enacted in Wisconsin) federal funds were discontinued for the direct service component of the Project. In order for the program to continue, financial support from local public school districts was necessary. Most school boards were eager for program continuation and contracted with the agency for service. Where there were exceptions, parents organized on their own and went to school board meetings requesting service. They apparently were quite influential since four districts in question did opt to purchase the program. (One father told a school board that if the district didn't buy the Project, he would move his family to a school district that would!)

Final Comments Regarding The Portage Home Based Program

This model depends upon a structured, concentrated interaction between the home teacher, the parents, and the child. It is important to be task-oriented during the home visit. There is much teaching to do, yet there is usually some time left for having a cup of coffee and socializing. During this time a parent may talk about marital, financial and other personal problems, and the home teacher can, and should, refer the parent to agencies or people who are trained to help. The teacher's expertise is in teaching — not social work, counseling, psychology, or psychiatry — but it is her responsibility to be aware of community resources that can serve these other needs. It then must be the parent's decision to contact or not to contact the suggested sources. The option and decision must be left with the parents.

Each teacher should set up a scheduled day and time for the home visit. If there is a change, parents should be informed. Because a family may have a handicapped child or may be in need of assistance does not mean the family must forfeit their right to privacy.

The teaching staff members may see homes and family life styles very different from their own. Thus, it is vital for the teachers to realize and accept that they are in the homes to aid the parents to learn teaching skills and not to

change life styles or value systems. The teacher should remember that he or she is a guest in each home and can only maintain the child-parent-teacher relationship with the parent's assent.

Many educators have, for too long, usurped the parent's role of responsibility in education. This condition may be magnified as more states lower the age for mandatory education for handicapped children by providing early intervention as soon as a problem is identified. Parents of the children being served need guidance and support from teachers but it is equally as important to realize and accept that teachers need parental support and guidance if the children are to achieve, maintain and increase behavioral competence.

The type of program which stimulates direct involvement of parents in teaching their children can provide parents with necessary skills and techniques to become more effective doing what they already do and being what they already are — the single most important individuals in their child's life — his parents and teachers.

The parent-teacher relationship is one built on mutual respect and need for what each can bring to the child. This relationship with the parents and families may well be one of the most satisfying and rewarding that a teacher will ever experience.

About The Author

Marsha S. Shearer is currently the Training Coordinator for the Portage Project, a home-based project for preschool handicapped children in Portage, Wisconsin.

Her professional interests include providing training and assistance in the areas of parent involvement and precision teaching techniques, and she has done research in developing and refining a curriculum guide for preschool children from birth to five years of age.

She holds degrees from Butler University and the University of Wisconsin and has authored an article in *Exceptional Children* about the Portage Project. She also is a co-author of *Education and Care of Moderately and Severely Retarded Children.*

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THE PORTAGE PROJECT: A HOME APPROACH TO THE EARLY EDUCATION OF YOUNG CHILDREN

David E. Shearer
Rebecca S. Snider

I. Goals and Objectives

In the past ten years, there has been a dramatic increase in both the number of programs devoted to the early education of young children and the amount of financial and human resources dedicated to such efforts. The government of the United Sates has done much to permit this growth not only by providing the majority of the funding for research, development, and maintenance of such programs but also by mandating free, public intervention in all states and for all handicapped children between the ages of 3 and 18, regardless of socio-economic, cultural, or handicapping conditions (Public Law 94-142). Together with such programs as Head Start and hundreds of other model approaches, the Portage Project, in Portage, Wisconsin, is a manifestation of such interest on the part of the government and the U.S. educational community in general.

The target population of early childhood education includes both young children and their families. Providing an intervention program for preschool handicapped children and directly involving the parents in the educational process is an ever increasing focus of attention. This interest is evidenced by any number of recent statements by leading experts in the field of early education. In a recent statement, for example, one national commission noted that:

> "...the problems of children are inseparable from the problems of those who are primarily responsible for their care and nurture. The characteristics of each child's environment are largely determined by the environment and circumstances of one or more adults.... It is therefore axiomatic that one cannot attempt to help children without influencing those adults.... This is especially true in the case of very young children because of the degree of their dependence and need for close psychological attachment to a particular adult." (Toward a National Policy for Children and Families, 1976, p. 11.)

Another report, *Preventing Mental Retardation — More Can Be Done,* (General Accounting Office), states, "Most retardation results from poor home environment." This retardation, which accounts for 75 percent of the 100,000 new cases of mental retardation diagnosed annually in the United States, is largely found in children from economically, socially, and educationally deprived backgrounds. Children reared in urban ghettos or impoverished rural areas are 15 times more likely to be diagnosed mentally retarded than middle class youngsters.

Recognizing this critical issue, the U.S. Department of Health, Education, and Welfare (HEW), the governmental body which has provided the resources and much of the impetus for the early childhood programs in the United States, announced early in 1978 that yet greater steps will be taken in the future to assure parental involvement in the education of children. These steps will include support for a stronger role for parent/teacher projects, parent advisory bodies, and development of educational materials for home use. Under consideration also are new programs designed to teach parenting skills to young mothers — particularly teenagers whose numbers represent a growing concern in the United States.

Coinciding with, and perhaps as a reflection of, the increased interest and concern for children and their families is the announcement of the First White House Conference on Families scheduled for 1979. It is our hope that much of the work being accomplished in preparation for this conference in the United States will be applicable to the activities connected with the international efforts underway also for 1979 which has been designated "The International Year of the Young Child". Every indication is that the international educational community is also becoming more and more aware of the need for strong early intervention programs for young children and the criticality of a stronger role for parents in the educational processes of their own children.

Thus, it is quite clear that in the United States and internationally the young child, the parent, and the educational program designed to meet the needs of the child are more and more being recognized as interdependent elements in the development of the society in which they exist. To ignore the parent in his position as his child's first and most natural educator is to lessen the chances for a successful educational program.

The Portage Project has, since its beginning in 1969, recognized the importance of a strong parental role and it has, in fact, designed its program to give the *primary* responsibility for a child's education to that child's parents. Originally funded by the Education of the Handicapped Act (Public Law 91-230, Title VI, Part C), the Portage Project has developed, implemented, and demonstrated a highly successful model educational program. The Project is a home-based model which centers on the parents of young children, a home teacher who helps those parents to become more effective teachers, and, of course, the young children in need.

The basic premises of the Portage Model as they relate to parents are:

- Parents care about their children and want them to attain their maximum potential, however great or limited that potential may be.
- Parents can, with instruction, modeling, and reinforcement, learn to be more effective teachers of their own children.
- The socio-economic and educational or intellectual levels of the parents do not determine either their willingness to teach their children or the extent of gains the children will attain as a result of parental instruction.
- The precision teaching method is the preferred model since feedback is provided daily to the parents and weekly to staff, thereby reinforcing both when goals are met. Moreover, the method provides a continual data base for curriculum modification, thus maximizing the likelihood of success for parents and children (Weber, et al, 1975).

Furthermore, there are many important reasons that Portage elected, nearly ten years ago, to involve parents directly in their child's education. For example:

- Parents are the consumers. They pay, either directly or indirectly, for the program and the service their child receives. Most parents want a voice in what and how their child is taught and they want to participate in the teaching of their child (Fredericks, Baldwin, Grove, 1974).
- Parents, if knowledgeable about the program their child is receiving, can be the best advocates for program continuation and extension (Hayden, 1974; Shearer and Shearer, 1976). School boards, advisory councils, and state legislatures throughout the U.S. have substantially changed policy and laws as a direct result of parental advocacy.
- According to U.S. government figures, there is a deficit of about 50,000 teachers to provide service to the nation's preschool handicapped population (Ackerman and Moore, 1974). Certainly, parent training programs can and should be developed to help meet this huge manpower need.
- Parents of a handicapped child will have more responsibility for their child over a significantly longer period of time than parents of a normal child (Shearer and Shearer, 1972).
- Parents know their child better than anyone else ever will. Thus, parents can serve as a vital resource to center or home-based staff in the area of functional program objectives for the child that will be useful in his own unique environment.
- There has been an acknowledged problem of transferring learning from the classroom to the home. This occurs because there is insufficient and/or ineffective communication between parents and teaching staff. Thus, it is vitally important that there is planned consistency between the center's educational program and the educational experiences provided by the parents. Without effective parent involvement, the best possible program for the child will have little effect (Lillie, 1974).
- Studies have shown that parent training during the preschool years is of benefit not only for the target child, but also for his siblings (Gilmer, et al, 1970; Klaus and Gray, 1968.). This indicates that parents are able to generalize learned skills, thus making them better parent/teachers of all their children.
- The training of parents, who already are natural reinforcing agents, will provide them with the skills necessary to effectively teach new behaviors and to modify inappropriate behaviors that interfere with learning.
- Parent involvement can greatly accelerate the child's rate of learning. A center, working with a child without benefit of parental involvement, cannot begin to accomplish alone what staff and parents can accomplish together. Fredricks et al have demonstrated that a systematic program by the parent in conjunction with a school program will almost double the rate of acquisition of a particular skill (Fredricks, Baldwin, Grove, 1974).

Having now experienced this rather unique delivery system for almost ten years, the staff of the Portage Project is convinced that there are inherent educational advantages to using a home-based educational model — in additon to the practical aspect of not having to transport children and provide a center (thus reducing program cost by more than half).

- Learning is occurring in the parent and child's natural environment; therefore, the typical problem of

transferring to the home what has been learned in a classroom or clinic does not exist.

- There is direct and constant access to behavior as it occurs naturally. This is more likely to result in curriculum goals that will be functional for the child within his own unique environment. In fact, the differences in cultures, life styles, and value systems held by the parents are incorporated into curriculum planning, since the parents make the final determination of what and how their child will be taught.
- It is more likely that learned behaviors will generalize and be maintained if the behaviors have been learned in the child's home environment and taught by the child's natural reinforcing agents — his parents.
- If instruction occurs in the home, there is more opportunity for full family participation in the teaching process. Father, sibling, and extended family involvement becomes a realistic and obtainable goal.
- There is access to the full range of behaviors, many of which could not be targeted for modification within a classroom (e.g., temper tantrums which only occur in the home or a child who crawls in bed with his parents each night).
- It is hypothesized that the training of parents, who already are natural reinforcing agents, provides them with the skills necessary to deal with new behaviors when they occur.
- Finally, since the home teacher is working on a one-to-one basis with the parents and child, individualization of instructional goals for both is an operational reality (Shearer and Shearer, 1976).

Thus far, two of the three principle elements of the Portage Model have been discussed — parental involvement and home-based programming. The third important component is the precision teaching model (Lindsley, 1968). As implemented by the Portage Project, this model contains five critical steps:

1) Approximately three behaviors are targeted for learning each week. The behaviors and criteria are chosen with the goal that the child and therefore the parent will achieve success in one week.
2) Baseline data is recorded by the home teacher on each new task prior to instruction as a check on readiness.
3) During the week, the parents implement the actual teaching process, which includes reinforcing desired behaviors and reducing or extinguishing those behaviors that interfere with learning appropriate skills.
4) The parent records during the week.
5) The home teacher records post-baseline data one week later to determine if the prescribed behaviors taught by the parents have in fact been learned by the child.

The degree of success on these targeted behaviors or prescriptions provides weekly feedback to the home teacher. Thus, the home teacher has current objective data on which to plan modifications in weekly curriculum goals. This, in turn, increases the likelihood of the parent and the child succeeding on the prescriptions for the coming week.

Thus, the Portage Project is a home teaching program which directly involves parents in the education of their children by teaching them what to teach, how to teach, what to reinforce, and how to observe and record behavior.

II. The Application Of the Portage Model

A. Administration and Target Population

The Portage Project operates administratively through a regional educational agency, the Cooperative Educational Service Agency (CESA) 12. This agency serves 23 school districts within its 3600 square mile boundaries and provides them with a variety of services, one of which is the early childhood program — The Portage Project. Currently the Project provides services to 150 children and their families through its Direct Services component. The children range in chronological age from birth to six or older if a child cannot demonstrate readiness for a school program. All the children served have been identified as being handicapped in one or more developmental areas. Any preschool handicapped child residing in the CESA 12 area qualifies for the early intervention program regardless of type or degree of handicapping condition.

B. Assessment and Curriculum Planning

The assessment procedure assesses the child in each developmental area to determine his or her functioning level. Present functioning level is used as the basis for further educational planning. In the Portage Project, we use the Alpern-Boll Developmental Profile, which is administered to all the children. This instrument, administered as a parent questionnaire, is combined with direct observation of the child's behavior, when possible.

To facilitate planning for individual children, the Project staff has devised the *Portage Guide to Early Education,* revised edition (Bluma et al, 1976). This curriculum guide, for use with children functioning between birth and six years of age, consists of a manual of

instructions; a sequential Checklist of behaviors, which includes five areas of development (cognitive, language, self-help, motor, and socialization) and an infant stimulation section; and a set of curriculum cards to match each of the 580 behaviors stated on the Checklist. The cards contain suggestions on materials and teaching procedures along with task breakdowns to assist teachers in individualized programming.

The Checklist is used to pinpoint the behaviors the child already exhibits in the developmental areas. The behaviors on the Checklist that indicate emerging skills (those unlearned behaviors immediately following learned behaviors) are those that the teacher may wish to target for learning. The user can then refer to the matching card in the deck which states the goal in behavioral terms and suggests materials and methods for teaching the skill. These materials can only serve as a guide for the teacher. Fully 50 percent of behaviors actually prescribed for children are not to be found in the Checklist; but they may well be a behavior leading to a long term goal which is listed in the Checklist. Thus, many behaviors listed on the Checklist can be thought of as long term goals which often need to be divided into smaller behavioral segments. These can then be chained together to achieve the long term goal. Thus the child determines the curriculum, not the Checklist.

C. The Home Teaching Process

Following both formal and informal assessment, the home teacher often suggests three or four behaviors that are emerging and could be prescribed. The parents are given the choice of which behavior they would like to target first. The chosen goal, stated as a behavioral objective, together with directions, is then written on an activity chart by the home teacher. Prescriptions are written with the goal that the parent and child will succeed on each prescribed task within one week. As parents experience success and gain confidence in their ability to teach their child and record his behavior, prescriptions are gradually increased to three and four per week. These activities are often in several areas of development. For instance, the parents might be working on reducing tantrums, buttoning, and counting all within the same week.

The home teacher writes the activity chart incorporating the selection of targeted behaviors. Again, the most important point is for the home teacher to break tasks down and prescribe only those that can be achieved within one week. This provides the parents with rapid reinforcement since what is learned by the child is a direct result of parental teaching. The directions are written so that the parents will have no difficulty understanding them, should they need to refer to them during the week. Recording is always uncomplicated and usually involves recording frequency of successes.

After the activity is pinpointed, the home teacher introduces the activity to the child and records baseline data — the frequency of correct responses prior to instruction. This data is recorded on the activity chart. The home teacher then follows the directions he/she has written on the chart and begins the teaching process. The home teacher, thus, is modeling teaching techniques for the parents, showing them what to do and how to do it. After several opportunities, the parent takes over and works with the child modeling for the home teacher. The home teacher then is able to offer suggestions and reinforcement which increase the likelihood that the parents will record during the week.

Throughout the visit the home teacher stresses the importance of working with the child during the week. The home teacher leaves his/her home and office phone number with the parents and encourages them to call if any question or problem arises during the week. Every attempt is made to utilize materials available in the home, however, there are times when materials are brought in and left for the parents to use.

When the home teacher returns the following week, post-baseline data is collected on the previous week's activities. This helps the home teacher validate the accuracy of the parent's recording and provides the teacher with feedback concerning the degree of success achieved by the child and the child's readiness for the next sequential step. Based on this data, the home teacher alters the previous prescriptions or introduces new activities beginning with taking baseline data. And so the cycle is repeated.

This is the sequence of the home visit process. However, in reality, in the beginning, intermediate and/or additional steps are sometimes necessary to the parent teaching process. Parents are not the same, thus it is as important to individualize the teaching process for them as it is for their child. Parents have successfully participated in the Project who are themselves retarded (activity charts are not used, however the parents still record utilizing adaptations in the charting system). Babysitters and other caretakers have taught children and the children's gains have been significant. Parents who, prior to Project involvement, said they had given up trying to teach their child anything have, in fact, taught their child a great deal.

D. Data Collection and Accountability

Evaluation is an on-going process. The activity charts that have been left with the parents are collected at the end of each week. The home teacher is responsible for turning in these charts together with a progress report weekly. The progress report lists the prescibed behaviors from the previous week and whether or not the child has attained the criteria needed before success can be recorded. Prescriptions for the coming week are also recorded on the weekly progress report. A behavior log is kept for each child. All activities and the date they were prescribed are written on the log. Each success and the date the prescription was achieved is recorded according to developmental area. This log provides an on-going record of every behavior prescribed, each success achieved, and the duration of each prescription. The log also provides a percentage of success achieved by parent, child, and home teacher. The continual input of data allows supervisory personnel and each home teacher to spot problems quickly, thus providing a continual feedback system for program monitoring and modification

III. Project Evaluation

The Portage Project has engaged in many types of evaluation because the types of questions we ask of ourselves and the questions others ask us changed as the program grew and developed. Probably, the first areas of interest were the ability of parents to teach within the Model and what effect that had on the children's growth and development. To answer these questions, activity charts were analyzed and pre-post testing was done on the children in the Project. It was found that the overall rate of daily recording by the 75 families in the Project was 92 percent and that an average of 128 prescriptions were written per child. The children themselves were successful on 91 percent of the prescriptions. The average IQ of the children in the Project was 75as determined by the Cattell Infant Test and the Stanford-Binet Intelligence Test. The average child gained 13 months (mental age) in an eight month period of time.

Further, an experimental study was conducted involving randomly selected children attending local classroom programs for culturally and economically disadvantaged preschool children. The Stanford-Binet Intelligence Scale, the Cattell Infant Scale, and the Alpern-Boll Developmental Profile were given as pre- and post-tests to both groups. In addition, the Gessell Developmental Schedule was given as a post-test to both groups. Multiple analysis of covariance was used to control for IQ, practice effect, and age. The greater gains made by the Portage Project children in the areas of mental age, IQ, language, academic, and socialization skills were statistically significant, as compared to the group receiving classroom instruction (Peniston, 1972).

Using the children as their own control, test results and behavioral gains were compared and measured. The mean gain in IQ scores on the Alpern-Boll Developmental Profile was 13.5 and was statistically significant beyond the .01 level. The mean gain in IQ scores on the Stanford-Binet was 18.3 and was statistically significant beyond the .01 level (Shearer and Shearer, 1972).

The Joint Dissemination and Review Panel of the U.S. Office of Education is responsible for the review of programs which have been developed through HEW funding. This Panel then selects exemplary models for validation and refers these models to individuals or agencies wishing to start programs of their own. In November of 1975, the Joint Dissemination and Review Panel unanimously recognized the Portage Project and validated it after an extensive review.

IV. Related Project Elements

What has been discussed up to this point is strictly the Portage Model and the rationale behind its development. I would now like to discuss, briefly, selected other aspects of the Portage Project, which concern the Model itself, but with varying degrees of modification and/or amplication.

Early in the implementation stages of the Project, two important concerns became clear to the staff. One was that, despite the favorable results shown by the children receiving Portage services, there was no systematic procedure to help the parent to become gradually less dependent on the home teacher and eventually to take over the total responsibility for the child's early education. The home teacher was viewed by most parents as the educational "authority" who visited their home once a week to tell them what to do for their children. Although this is viewed as an important first step, the Project's original intent was to help the parents to gradually become their child's best educator.

The second concern was that, although the Project was originally funded to develop and implement an educational program for preschool handicapped children in a rural area, the implications of the evaluation results suggested a much broader application. If the system worked with handicapped children would it be equally effective with normal preschoolers? If a rural child benefited, would an urban youngster?

In attempting to address these two concerns, the Portage Project began to expand its efforts. In 1974, the Project applied to the Bureau of Education for the Handicapped (BEH), Research Branch and received funding to conduct research attempting to answer two fundamental questions.

1) What effect does the Portage Model have upon the acquisition and generalization of child management and teaching behaviors of the parents served, not only in terms of the referred child across non-targeted behaviors, but also to a non-referred sibling?
2) Will a systematic program of strategies (Parent Program) designed to increase the parent's teaching and behavior management skills significantly improve the acquisition and generalization effects in comparison with the current Portage Model?

In the first and second years of funding, Project staff developed the Portage Parent Program which includes a set of readings for parents, an instructor's manual, and a parent behavior inventory. These materials provide parents with the information and skills included in the Parent Program. (Boyd, Bluma, and Stauber, 1977.)

A group of children and parents was designated to receive a systematic parent training program in addition to the basic Portage Model of home teaching. This program was specifically designed by the staff to attempt to encourage acquisition and generalization of parental teaching and management skills. This Parent Program group was compared and contrasted both to the families receiving the basic Portage Model and to a non-treatment control group, consisting of families with preschool children determined *not* to have exceptional educational needs.

The results of this research are quite interesting for they show that both treatment groups produced superior performance on certain child and parent measures as compared to the non-treatment control group and produced comparable performance at post-baseline along other dimensions in which the treatment groups were initially inferior. In no case did the non-treatment group significantly out-perform the treatment groups at the end of the intervention.

The efficacy of both treatment groups along most measures is attributed to the Portage Model's use of precision teaching and modeling by the home teacher. The Parent Program's emphasis upon a more systematic parent training component and parental involvement in the planning as well as implementation phases of the home teaching process, yielded modest but important gains above those noted for the Portage Model group. The Parent Program's application of similar behavioral principles with parents and the shift of emphasis from the parents being the mediators to the parents actively planning, devising, and evaluating their own prescriptions are viewed as important contributions which add to the efficacy of a proven model of intervention for preschool children.

In an attempt to address the second major concern, the possibility of a broader application of the Project, staff was made available to both implement the Portage Model in other than rural areas and to provide training and technical assistance to programs in other areas wishing to implement all or a part of the Model.

For example, in 1973 a Portage Project replication was established in a large urban area in the Midwest — Milwaukee, Wisconsin. This program, Operation Success, serves as the demonstration model for another Portage Project activity — the Home Start Training Center (HSTC), which provides training and technical assistance to Head Start programs wishing to implement a home-based option.

Also, the Project received funding from BEH to provide Outreach training and technical assistance to programs throughout the United States and to disseminate Project information and materials. Such assistance has been provided by Portage since 1972 to a variety of programs serving a wide range of children. Through these efforts, the Portage Model has been implemented either in whole or in part by public schools, state institutions, private facilities, in both center and home-based programs, and in both rural and urban areas located throughout the United States.

Through wide dissemination of Project information and extensive participation in conferences, the Portage Model has also become well known internationally. The Curriculum Guide has been translated into several languages (e.g., Jamaican Vernacular, French, Japanese, Spanish, Samoan) and adapted for use by special groups. For example, the Guide has been modified by the addition of illustrations specifically designed by and for the Eskimo population in Alaska.

Furthermore, the Portage Model has been successfully replicated and implemented in several sites internationally. In Great Britain, for example, Dr. Albert Kushlick, Director of the Health Care Evaluation Research Team in Wincester, England directs the Wessex Portage Project replication. Also Dr. Roger Blunden of the Welsh National School of Medicine has been the catalyst for another Portage replication in South Glamorgen, Wales. Both projects have met with significant success in serving the preschool handicapped children

and their families in each locale by adapting the Portage Model to the unique needs of those served. Both gentlemen have conducted a significant amount of research on the project and the results of their evaluation activities have shown that gains made by children coincide closely with the findings of evaluation studies completed in replication sites in the United States.

Because of the increased international interest in parental involvement in the education of preschool children, the Portage Project also has been working with the General Directorate of Initial Education (DIGEI) and the National Institute of Educational Research and Development (INIDE) of Peru since July 1977. This collaborative effort, funded jointly by the Peruvian Ministry of Education and the Agency for International Development, is an attempt to adapt and modify the Portage Model's procedures and materials to Peruvian socio-cultural and economic necessities.

Implemented in December 1977, the Project has the following goals:

- To establish a parent training program for 240 families in marginal urban and rural bilingual areas.
- To train community para-professional and professional supervisory personnel to carry out program functions.
- To develop appropriate training and pedagogical materials.
- To investigate Project results using control groups to measure impact on children, parents, and community.
- To validate the adapted model and materials within the socio-cultural context of Peru.

Thus far, through efforts of Ministry of Education personnel and Portage technicians, community selected personnel have been trained, a nutrition, health, and hygiene educational unit has been developed, and four program sites (two rural and two urban) have been established. Initial results will be available in January of 1979.

V. Final Comments On the Portage Model And Parents as Educators

This Model depends upon a structured, concentrated interaction between the home teacher, the parents, and the child. It is important to be task-oriented during the home visit. There is much teaching to do, yet there is usually some time left for having a cup of coffee and socializing. During this time a parent may talk about marital, financial, or other personal problems, and the home teacher can, and should, refer the parent to agencies or people who are trained to help. As mentioned before, the teacher's expertise is in teaching — not social work, counseling, psychology, or psychiatry. But it is her responsibility to be aware of community resources that can serve these other needs. It then must be the parent's decision to contact or not to contact the suggested sources. The option and decision must be left with the parents.

Each teacher should set up a scheduled day and time for the home visit. If there is a change, parents should be informed. Because a family may have a handicapped child or may be in need of assistance does not mean the family must forfeit their right to privacy.

The teaching staff members may see homes and family life styles very different from their own. Thus it is vital for the teachers to realize and accept that they are in the homes to aid parents to learn teaching skills and not to change life styles or value sytems. The teacher should remember that he or she is a guest in each home and can only maintain the child-parent-teacher relationship with the parent's assent.

Many educators have, for too long, usurped the parent's role of responsibility in education. This condition may be magnified as more states lower the age for mandatory education for handicapped children by providing early intervention as soon as a problem is identified. Parents of the children being served need guidance and support from teachers but it is equally important to realize and accept that teachers need parental support and guidance if the children are to achieve, maintain, and increase behavioral competence.

The type of program which stimulates direct involvement of parents in teaching their children can provide parents with necessary skills and techniques to become more effective doing what they already do and being what they already are — the single most important group of individuals in their child's life — his parents and teachers.

The parent-teacher relationship is one built on mutual respect and need for what each can bring to the child. This relationship with the parents and families may well be one of the most satisfying and rewarding that a teacher will ever experience.

Home-based educational service is a rapidly expanding field and as more and more programs become interested in implementing a home-based service, it becomes important to identify those components that enhance the success of such programs. This places pressure on any program, but particularly those viewing themselves as model programs, to be able to define their intervention strategy in order to evaluate specific components. This must be done at the original site so that it can be tried and used by others. It must be put to the test in the field to see if it can be used effectively by others with similar results. There

are far too many programs in isolated cases or studies that can define their success in terms of child growth, yet they are unable to define their intervention strategy allowing others to replicate the model. No longer does one need to be concerned with selling the home-based concept, as it is widely accepted as an effective, productive, and rewarding service. However, simply providing a home-based program is not the mysterious end all in education. It simply implies that teaching is taking place in the home and not in the classroom. It is time to state that by initiating a home-based program, one does not insure that parents will be active and effective nor does it insure that the children will benefit from such efforts.

We at the Portage Project do not believe that we have found the answers for parenting and parent education. Our research project has raised more questions than it has provided answers, yet we remain anxious to share. We want to put the facts on the table, be specific as to what we have done and what we are doing so that others may replicate, adapt, and/or modify our work while others may have the opportunity to objectively analyze and criticize what has occurred.

Although there are many, many questions unanswered concerning home-based programs, we have learned a great deal. The Portage Project has been in the home teaching business since 1969. Let us look at what we know.

- Any successful home-based program must have developed an alliance with the parents.
- Parents can teach their own children and with structured sequential assistance, they can eventually plan and implement their child's educational program.
- By using a behavioral, systematic, developmental approach the children can achieve in a home-based program as well as they can in a classroom program.
- Without direct and consistent parent involvement in any preschool setting, children will not maintain their gains.
- Individualized instruction can be realized in the home.
- Father, sibling, and extended family member involvement is a realistic and obtainable goal.
- Differences in cultures, life styles, and value systems of parents can be incorporated into curriculum since the parents share in the planning and are the final determiners of what and how their child will be taught.
- Learning is occurring in the child's natural environment, thus eliminating the problems of transferring the learning from classroom to the home.
- It is more likely that the skills the child learns will generalize to other areas and be maintained if the skills have been learned in the home environment and have been taught by the child's natural reinforcer — the parents.

Through research, investigation, and practice we are learning more of the questions. Hopefully, as we continue to search, experiment, and test we will learn more of the answers. This conference exemplifies the fact that we are on the threshold of a new era of parenting and parent education. This is a time for sharing, learning, and investigating honestly and openly. But these efforts must be done responsibly and systematically. We owe it to each other and we especially owe it to the children and the parents we serve.

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THE PORTAGE PROJECT IN THE UNITED KINGDOM

Elizabeth May

In 1975, the Portage Project made plans with the Applied Research Unit on Mental Handicap in Wales and the Health Care Evaluation Research Team of Wessex Regional Health Authority in England to provide short, intensive training workshops and consultation to their staff who were prepared to set up Portage home teaching service within their area. Both agencies were interested in starting the programs as demonstration sites as well as research projects. A summary of some of their results supports the efficacy of the Portage delivery model and gives valuable information to others wishing to start home-based services to children with special needs.

Portage Service in South Glamorgan, Wales

Roger Blunden, Director. The Applied Research Unit on Mental Handicap in Wales implemented a six month pilot of the Portage Project which allowed them to develop research measures and an experimental design for the Evaluation phase of their project. Two part-time Home Advisors, both nursery nurses, were selected. One of these Advisors attended the three-day Portage workshop held in Cardiff in May, 1976 and the other was trained by the Research Unit Staff who incorporated many of the features of the original workshop in their training session.

Each Advisor was responsible for a certain geographical area during this Evaluation phase and baseline measures commenced in July, 1976. After two months the Portage service was introduced into Area A and after a further two months into Area B. Data collection continued in both areas until March, 1977. The nineteen children in the study ranged in age from eight months to four years and their initial scores on the Griffiths Mental Developmental Scale (Griffiths, 1954 and 1971) ranged from eight to eighty-nine. The data collected on these children during the research project supplied answers to the following questions:

1) Can preschool developmentally retarded children successfully be taught new skills, using the Portage model of service delivery? Analysis of the 306 activity chart goals written for the children during the Evaluation phase showed that 83 percent of the goals were achieved, 67 percent of those being learned within one week.

2) Is the rate of acquisition of skills faster under Portage than before?
Mean Number of Portage Checklist Skills Gained Per Month:

Experimental Condition	Group A	Group B
Baseline	4.2	3.7
Portage Service	11.1	9.4

3) Does the score on a standard development test increase faster under Portage than before?
Mean Number of Points on the Griffiths Mental Development Scale Gained Per Two Months:

Experimental Condition	Group A	Group B
Baseline	1.0	0.4
Portage Service	4.1	2.7

4) How important are the written teaching instructions in helping the mother teach her child?
Each week two appropriate tasks were set for each child and the Advisors demonstrated and took baseline measures on each. However, only one of the tasks was written up on an activity chart with directions included. The mothers were asked to teach both tasks to their child during the week.

	Group A	Group B
Percentage of tasks credited for which instructions were given	85.3	90.0
Percentage of tasks credited for which no instructions were given	17.6	23.0

5) Under the Portage scheme, are more skills learned other than those directly taught?

Checklist	Group A	Group B
Mean number of Checklist tasks taught per month through Portage service	2.6	3.3
Mean number of Checklist skills not directly taught through Portage gained per month of Portage service	8.6	6.1

The researchers suggest two possible reasons for these figures: As a result of the Home Advisors' intervention, the mothers may have become more skilled at teaching appropriate skills to their children. Also, the repeated monthly tests may have helped the children acquire new skills, as the test situation itself may have provided opportunities for additional learning.

Replication — The researchers replicated the Project in a subsequent program in Dyfed, a rural area of Wales, utilizing existing staff resources from more than one agency. Similar results were obtained on the major research questions as the children in the Replication Phase made greater gains both in Checklist items gained per month and points on the Griffiths Scale gained per two months during Portage service than during baseline measures. The personnel from these projects plan to issue a report detailing the training, supervision, and resource requirements necessary to establish and maintain a Portage Service in the United Kingdom using existing resources.

Wessex Portage Project in Wessex, England

Alfred Kushlick, Director. In May, 1976, a three-day training was conducted in Southampton, England by two Portage staff members. They trained and consulted with three newly hired home teachers and their supervisor, as well as with members of the research team of Wessex Regional Health Authority. The ensuing pilot project provided six months of home teaching service to thirteen families with mentally handicapped preschoolers, entailing an hour and a half home visit per week for each family. The three part-time teachers continued to carry out their former jobs, but also on a part-time basis. The home teachers were an experienced nursery school teacher, a visiting nurse, and a social service worker; none of these had ever used a precision teaching model or the Portage Project methods and materials.

The main objectives of this project were: 1) to set up a multi-disciplinary collaboration from existing health, social service, and education agencies that could more effectively provide service to preschool handicapped children and their families based on the Portage Model; 2) to show that personnel unfamiliar with the precision teaching model and the Portage methods and materials could be trained in a short period of time (3-5 days) to train parents to teach their children relevant skills; and 3) to have the parents in the project indicate that the Portage service was of value to them in caring for and educating their handicapped child. Some of the results of this project are detailed below.

Parental Cooperation and Satisfaction — The parents' cooperation throughout the six month pilot project and the results of a post-service questionnaire clearly indicate their satisfaction with the service. None of the families who were offered the service refused to join and none of them dropped out during the service period. Furthermore, on only one occasion out of 236 home visits was a parent *not* at home at the specified time.

All of the parents began recording their child's behavior at the first possible occasion, as requested by the teacher. Moreover, the final records show that parents carried out and recorded an average of 81 percent of the 19,235 trials requested of them on the activity charts (including working on the activities over the weekends).

The post-service questionnaire also gave valuable information to the researchers. Although the mothers were primarily responsible for carrying out the Portage activities, half of them reported that their husbands sometimes helped with the activities. All parents indicated that they were either "very satisfied" or "satisfied" that their child was happy when working on the activities with their teacher and themselves, too. Finally, all parents responded that they would recommend home teaching service to other families with a handicapped child.

Child Gains — The children in Wessex Portage Project achieved 82 percent of all of the objectives that were written for them which is comparable to those gains reported in Wisconsin. Other gains made by the children were measured by the number of *Portage Guide to Early Education* (Bluma, S., M. Shearer, A. Frohman and J. Hilliard, 1976) Checklist items present at entry versus those gained during Portage service. After a period of home teaching ranging from three to seven months (according to when the child began home teaching) the thir-

teen children had gained a total of 484 new behavioral items, representing a gain of 18 percent of the total possible behavioral items on the Portage Checklist. Interpretive figures show that 25 percent of the Checklist items *not* present at entry were gained during the service period.

It is interesting to note that for 43 percent of the newly acquired Checklist items, there was an activity chart written on which the behavioral objective matched the Checklist item. For the remaining 57 percent of the items, there was no matching chart, although components of many of those goals were probably worked on. Because the children learned at different rates, many Checklist items needed to be task analyzed into smaller, weekly goals. As Dr. Kushlick indicates. "This very often resulted in the successful attainment of these smaller objectives with the natural consequence that the child then attained the larger step listed in the Checklist without the aid of further activity charts". (Smith, Kushlick, and Glossop, 1977.)

Of the twelve parents responding to the post-test questionnaire, ten felt that their child's progress had been better than usual during the service. One parent felt that the progress was the same as usual and the remaining mother felt that she could not respond as her child had been only a few weeks old when the project commenced. However, she said that she and her husband were more than satisfied with his progress.

Teacher Performance — The child gains, the monitored records, and the parent reports all clearly indicate that the teachers were successful in carrying out their responsibilities. The large majority of the parents indicated that the teacher always clearly demonstrated and assigned activities, watched the parent work on them with the child, and ensured that the parent could carry them out during the week before she left the home. They also reported that they were able to record and carry out the requested activities according to the directions on the charts. Finally, they indicated that sometimes they participated in choosing the weekly goals for their child and were often asked their advice on the type of activity to pursue in relation to the goal.

The researchers felt that much of the success of the teachers' performance, in fact the whole staff's performances, was due to the extensive monitoring system. As stated in their research report: "The results show that the various individuals completed their allotted tasks with an impressive degree of consistency. We suggest that this consistency is maintained by that component of the intervention which requires individuals at the different levels of the system to perform directly and/or to present data on their performances to other specified people to whom they are accountable, i.e., the child to the parent; the parent to the home teacher at the weekly visit; the home teacher to the supervisor and other home teachers at the weekly staff meeting; and the supervisor to the Management Team members for whom he must prepare a monthly report to be presented at the monthly meeting. Given the precision with which the tasks are allocated, most of the performances are readily attained. The tasks seem, therefore, intrinsically rewarding in that success leads to improved control by the child of his environment. The individuals concerned also receive positive feedback from the people to whom they account" (Smith, 1977). The researchers feel that it would be difficult to carry out a home teaching model without such a monitoring system, no matter how motivated the instigators are. In fact, their home teachers who make home visits to other clients outside of the project report that in the absence of the monitoring system they do not carry out the systematic procedures even though their clients may present similar problems.

Summary

Both projects in the United Kingdom were satisfied with the results of their projects and wish to continue them. As stated before, the program in Wales will be issuing a report for others interested in starting a Portage home teaching service. The project in Wessex also mentioned the possibility of writing a Portage manual as well as using this Model in a program for older clients needing service through medical, social, and educational agencies. Finally, both projects were pleased to show that personnel from existing agencies in a variety of disciplines could be quickly trained to carry out the home teaching service without the creation of a new agency requiring highly trained personnel.

This discussion is not intended to completely summarize the results of these projects, but instead to highlight some of the research. For further details and information on the methods and findings, the following persons can be contacted:

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SYSTEMATIC PARENT TRAINING THROUGH A HOME-BASED MODEL

Richard D. Boyd

A growing body of descriptive and experimental studies attests to the importance and efficacy of providing effective parental involvement in the educative and therapeutic processes for children (Berkowitz & Graziano, 1972; Bronfenbrenner, 1974; Johnson & Katz, 1973; Schaefer, 1972). Such studies developed out of an emerging awareness of the vital importance of the preschool years in the intellectual and social development of the child, as well as disenchantment with traditional forms of child therapy in producing change that would endure outside the treatment environment or would generalize to new problems (Graziano, 1971; Mash, Handy, & Hamerlynck, 1976; Wahler, 1969b). In many respects, parent involvement and training has become a primary intervention strategy for compensatory preschool programs, child treatment units, and programs for early education of the handicapped. Recognition of the pivotal role parents play in the early education of developmentally delayed children has led to the development of programs that actively and meaningfully involve parents in teaching their own children (Baker, 1976; Shearer & Sherarer, 1972). Yet despite this laudable trend toward parent involvement, much work needs to be done to explicate the necessary and sufficient variables that comprise "effective" parent involvement and training. Many questions that practitioners are struggling with remain unanswered. Specifically: How can programs actively and meaningfully involve parents in their child's education or treatment? What parent and child characteristics signal the application of a given amount or mode of training? How can a program adequately assess the current parent-child interaction, provide an individualized training sequence, and be accountable for the results of the intervention?

Background

One of the first programs to actively and meaningfully involve parents in the education of their preschool handicapped children was the Portage Project, a home-based program that began in 1969 through funding provided by the Bureau of Education for the Handicapped. The Portage Model (Shearer & Shearer, 1972) utilizes the parent as the child's primary teacher. Home teachers visit each family on a weekly basis for 1 1/2 hours, and demonstrate to the parent appropriate presentation of prescribed activities to the child. The parent then models for the home teacher who can provide corrective or reinforcing feedback, thus shaping the parent's teaching and management skills. A developmental curriculum and checklist of skills (*Portage Guide to Early Education* Bluma, Shearer, Frohman, & Hilliard, 1976) is used as the basis for instructional planning. Task analysis is used to break these terminal objectives into appropriate behavioral objectives that can be acquired within the one-week period of time. The specific weekly objectives are written on an Activity Chart which also contains directions for the parent in terms of presenting the activity to the child, and consequating and recording his responses.

As can be determined from the above description, the Portage Model of home teaching is a parent-mediated paradigm (cf Tharp & Wetzel, 1969) which relies heavily upon modeling, discussion, reinforcing or corrective feedback, and written Activity Charts to provide parents with the necessary structure to effectively instruct their own child. The responsibility for devising, writing, and evaluating the effectiveness of the instructional activities has been primarily that of the home teacher, with the parent providing essential assessment and curricular information for the success of the child's program. These procedures have been found to be quite successful as is evident in the consistently favorable measures of child progress obtained both in the population served by the Portage Project, and also in the children served by various replication sites (Shearer & Shearer, 1972; Portage Project Progress Report, 1975). Indeed, the results obtained led to the Portage Model receiving unanimous approval from the Joint Dissemination and Review Panel of the

United States Office in Education in November, 1975.

Despite these favorable results, the findings have been limited in that they document the Portage Model's effect on the children served, but do not specify the effects, if any, on the parents in the program. This was considered to be a crucial question as the model attempts to meet the developmental needs of preschool handicapped children by having the parents teach their own child. Informal observations suggested that many parents acquired appropriate teaching and child management skills as a result of their involvement in the program. A few parents appeared to not only acquire specific techniques and procedures which they were able to utilize with future objectives for the targeted child, but further seemed able to generalize these skills across non-prescribed tasks and to non-targeted children in the family. However, disconcerting results have also been evident. A sprinkling of parents seemed incapable (because of pressing ecological factors) or unwilling to carry through with some of the basic requirements of the Portage Model (e.g. recording child response, working daily with the child). Other parents did not appear to generalize the appropriate teaching and child management techniques from one week to the next, even with similar behaviors targeted for change. Most parents seemingly could have become more accomplished teachers and managers of their children's behavior had there been an intentional and systematic program designed to instruct the parent in appropriate teaching and child management behaviors. The well defined strategies and system of accountability that were built into the model as it related to teaching children did not exist for teaching parents. Though the Project staff was convinced that parents did acquire teaching and management skills, there was no objective way to account for the amount or type of skills acquired, nor did a systematic procedure for assisting or accelerating the rate of acquisition or generalization of parental skills exist.

Portage Parent Program

These concerns provided the impetus for the development of a systematic parent training program that operationally begins to address the above issues. This parent training model is an outgrowth and logical extension of the Portage Model, and was developed as part of a research project through funds provided by the Research Projects Branch of the Bureau of Education for the Handicapped.

Premises

In developing a program to enable home teachers to effect change in parent-child interaction several elements were considered essential:

1) *Individualization* — A guiding principle in the development of the Parent Program was the individualization of strategies and procedures to meet the unique needs of each parent-child dyad within the context of their particular environmental setting. Individual differences of parents obviously need to be taken into account in any parent program, as parents display considerable variability in terms of teaching and child management skills. Accurate assessment of these individual differences in pre-intervention responding, as well as assessment of the particular stimulus and setting events of the natural environment, was considered essential to effective programming and evaluation. Fortunately, in a home-based program individualization is virtually inescapable, circumventing the difficulty of individualizing rate and content of presentation typically encountered in group parent training programs.
2) *Interactive Analysis of Parent-Child Behavior* — In any parent training program that attempts to extend beyond the didactic presentation of material to effect change in parent and child behavior, an interactive analysis of parent-child response is necessary. Focusing solely on the parent's behavior or the child's behavior limits the scope of assessment and attenuates the ultimate effectiveness of any intervention. By viewing the parent-child interaction in the natural situation one can objectively assess the current pattern of responding and can identify possible antecedent and consequent parental events which may be controlling child response. Emphasis was placed upon viewing parent-child interaction in terms of the Antecedent-Behavior-Consequent model, where parental antecedent and consequent events serve to evoke and maintain child behavior. Although some recent research focuses on the controlling effects child behavior has on parent response (Bell, 1968, 1971), the opposite tack was considered more functional for home teachers in assessment and intervention, as the rearrangement of parental antecedent and consequent response has a well documented effect on changes in child behavior (Budd, Green & Baer, 1976; Butterfield & Parson, 1973; Forehand,

PARENTAL BEHAVIOR INVENTORY

Richard D. Boyd & Kathleen A. Stauber

The PortageProject

FAMILY NAME _____

	0-25%	26-50%	51-75%	76-100%	Comments
I. TEACHING ANTECEDENTS					
1. Parent removes extraneous, distracting stimuli			9/76		
2. Parent commands child's attention before presenting teaching antecedent			9/76		
3. Parent provides *brief* explanation or command		9/76			uses requests
4. Parent's language corresponds to child's receptive language level		9/76			Questions confuse ch.
5. Parent models appropriate response to initiate task			9/76		
6. Parent provides appropriate visual, verbal, or physical aid when necessary to initiate response			9/76		Weak on language task
7. Parent provides additional aid if child becomes frustrated with task	9/76				Repeats command
8. Parent periodically repositions stimulus materials to avoid correct responding to position		9/76			
9. Parent makes child aware of contingencies of reinforcement for correct response (i.e., if you do X than you can do Y)	9/76				no reinforcement used
II. MATERIALS					
1. Parent uses instructional materials as modeled by instructor			9/76		
2. Parent chooses appropriate materials given choice by instructor					
3. Parent selects appropriate materials for instructional activity from materials available in home					not observed
4. Parent independently and appropriately selects, presents, and positions materials during instructional activities					not observed
III. TEACHING CONSEQUENTS					
A. Reinforcement in Teaching Tasks					
1. Parent reinforces appropriate behavior	9/76				
2. Parent provides immediate reinforcement					
3. Parent provides edible reinforcers *if necessary* to initiate or maintain child's performance					
4. Parent pairs verbal or social reinforcer with tangible or activity reinforcers					

* Cooperative Educational Service Agency #12 Portage, Wisconsin

Figure 1

Roberts, Doleys, Hobbs, & Resick, 1976; Hall, Axelrod, Tyler, Grief, Jones, & Robertson, 1972; Hawkins, Peterson, Schweid, & Bijou, 1966).

3) *Specificity of Parent Response* — A third element thought necessary was development of a means to target specific parent responses for change. It was anticipated that by doing so, one could avoid the outcome measurement pitfalls commonly associated with the well-intentioned but ambiguous goals of many parent training programs. In order to develop this capacity, home teachers needed to become aware of a wide array of parent responses that could affect child behavior, in both the teaching and child management domains. Additionally, home teachers required a means to rate parental baseline performance along these dimensions through their informal observations, and then focus on a specific behavior as a target by collecting actual baseline data on that particular response.

4) *Accountability* — The final aspect considered essential in the development of a systematic, effective parent training program is accountability. Operationally this was taken to mean that the home teachers had some system by which to record parent response, tracking their performance along various dimensions in both the teaching and child management domains. Such a process ensures that home teachers were making data-based decisions regarding the effectiveness of intervention strategies and the sequencing of future objectives.

Procedures

These guidelines provided the conceptual framework for the development of the Portage Parent Program. The ultimate goal of intervention was to make each parent as functionally independent of the home teacher as possible, teaching the parent how to effectively instruct and manage their own child's behavior. Specific objectives were identified for change largely through the home teacher's informal observation of the parent-child interaction during both teaching and non-teaching situations. Home teachers made use of a *Parental Behavior Inventory* (Boyd & Stauber, 1977) Figure 1, to rate the parent's baseline level along the array of behaviors listed.

The Inventory consists of over 80 items of parental antecedent or consequent events in both the teaching and child management domains. Within the first 4 or 5 weeks home teachers were able to informally rate parents on an initial sub-sample of the more important dimensions (e.g. reinforcement, correction, use of instructional aids, child management behaviors), with the provision that no one item be rated higher than the third quartile (51-75%) without an actual count being made. This initial informal baseline rating provided the home teachers with representative knowledge of the parent's strengths and weaknesses, as well as an indication of specific parent responses that could be targeted for change. Frequency counts were then made on specific behaviors selected, with the use of a simple coding sheet, Figure 2, to provide a formal baseline rate against which intervention results could later be compared.

DATE: *November 9*

OBJECTIVE: *Correct child errors without negative statements*

STRATEGY: *Model for parent and discuss; have parent record my model*

\+ = *Corrects without negative*

– = *Uses negative*

⊕ –	⊕ –	+ ⊖	⊕ –	⊕ –
⊕ –	+ ⊖	⊕ –	⊕ –	⊕ –
⊕ –	⊕ –	⊕ –	⊕ –	⊕ –
⊕ –	⊕ –	⊕ –	⊕ –	⊕ –
+ –	+ –	+ –	+ –	+ –

Approximate Recording Time: *10 minutes*

% Appropriate Response: *90%*

Figure 2

A plus-minus system is used for each of the twenty-five cells on the data sheet, so that the home teacher need only circle the appropriate symbol to count an instance of the defined behavior. Twenty-five cells were arbitrarily chosen as appropriate to provide a representative sample of even fairly high rate responses.

Home teachers were initially apprehensive regarding how the parents might respond to having their behavior recorded. In order to defuse this apprehension, and to desensitize the parents to the recording procedures, the home teachers asked the parents to record some aspect of the *home teacher's* behavior while the home teacher worked with the child. This strategy was effective in not only introducing the parent to the utility of recording specific responses, but it also sensitized the parent to attend to the behavior of concern and further engendered a cooperative working relationship between the home teacher and parent as it related to the parent training component.

Once parents were comfortable with the coding procedures, formal baseline data could be coded by the home teacher on a specific response that the home teacher felt could be modified to improve the parent's skills. Parents also selected their own objectives, although strictly speaking true baseline in such a case was probably not obtained. A set of interactional strategies (*Instructor's Manual: Portage Parent Program*, Boyd, Stauber, Bluma, 1977) were then utilized by the home teacher as intervention procedures. These strategies were typically initiated by praising some positive aspect of the parent's current repertoire and then specifying a particular response that if eliminated, modified, or acquired would enhance the parent's teaching and management skills, and thus the child's development and behavior. The remaining strategies were based on the techniques of modeling, prompting, recording, and providing reinforcing or corrective feedback. Additional suggestions were provided to home teachers in relation to the type of antecedent events they provided which were likely to evoke certain parental responses. Home teachers were to model correct responses for the parent and then have the parent model. Then, while the parent worked with her child on the prescribed activities (see Shearer & Shearer, 1972), the home teacher could provide immediate prompts or reinforcing feedback to the parent to evoke and maintain the appropriate response. If the parent continued to experience difficulty, the home teachers were instructed to intervene rather than allow the parent to practice incorrect behavior. The home teacher would then model as a correction procedure for the parent and again have the parent model and resume teaching. Home teachers were not to usurp the parent's role as teacher by taking over the teaching of the child, unless it was absolutely necessary to maintain control over the situation.

As parents demonstrated proficiency with the targeted responses, new objectives were established and similar strategies initiated. As a procedure to ensure that previously mastered skills were maintained, occasionally the home teacher would announce that the parent had been working well with the recently targeted responses x, y and z, and that today she was going to record one of those appropriate responses, but she was not going to inform the parent which one she was going to code. This strategy served not only to reinforce the parent and introduce an element of fun, but it also helped the parent to integrate these responses, previously worked on singly, into her teaching style.

Finally, each parent was provided a set of *Parent Readings* (Boyd & Bluma, 1977) that described major topics and procedures in teaching and child management, in both the antecedent and consequent components of the A-B-C paradigm. Parents were asked to read select articles (e.g. How to Weaken Misbehavior, Aids to Use in Teaching) on an individualized basis, but the primary emphasis was placed on the readings as serving as a focus of discussion between parent and home teacher. Readability analysis (Fry, 1968) of a sample of articles indicated that the readings ranged in difficulty level between the 7th and 9th grades. Use was made of typical family situations, graphics, and Bil Keane's *Family Circus* cartoons to highlight and illustrate the main concepts and procedures in a true-to-life, yet humorous fashion. The readings were uniformly well received and provided the parents with an informational base and rationale for the procedures they were learning. Importantly, ancedotal feedback suggested that they were of great benefit to the targeted parent, almost exclusively the mother, in helping her explain and provide the rationale behind use of certain procedures to her spouse, often allowing the other parent to become involved in the use of the procedure. Such an outcome may help circumvent the oft-heard complaint of a "good program" being "undermined" by an "uncooperative" spouse. The specific readings may provide the targeted parent with additional resources in soliciting the active involvement of her spouse in the intervention.

Illustrative Case Study

Mrs. P.'s 3 1/2 year old daughter, Mary, was referred to the project because of a short attention span and delayed development. Assessment data on the *Alpern Boll Developmental Profile* (Alpern & Boll, 1972) indicated that Mary was approximately 1 1/2 years delayed in the

communication area with multiple misarticulations noted along with poor language development. In addition, Mary was a behavior problem and was being seen along with her mother at a local guidance clinic.

Initial programming focused on the academic and communication areas with the home teacher prescribing these activities and modeling them for the parent. Mary was initially reticent to perform either for the home teacher or her mother, but gradually warmed up to the situation, working on the prescribed tasks. After a few weeks, the home teacher became aware of the discrepancy between the favorable manner in which Mary worked for the home teacher, and the performance breakdown that occurred whenever the mother took over the teaching role. Analysis of the mother's teaching repertoire using the *Parental Behavior Inventory* indicated that Mrs. P. provided adequate antecedent events (removed distracting stimuli, provided brief commands or explanations, commanded child's attention before presenting instructional antecedent), but failed to consequate Mary's responses appropriately. Specifically, the mother reinforced correct response at a low rate and did not provide corrections for incorrect response. Often the teaching session between Mrs. P. and Mary would end with Mary becoming negativisitic and Mrs. P. scolding Mary for her behavior. An initial objective for Mrs. P. was to learn to reinforce correct response at a higher rate. Once this was accomplished, the home teacher and Mrs. P. worked on providing a correction procedure for Mary's incorrect response. Mrs. P.'s rate of correcting incorrect responses gradually increased as a result of intervention; however, Mary's rate of inappropriate response was still very high. Further analysis indicated that Mary's inappropriate behavior seemed to be highly related to parental negative feedback. Thus, Mrs. P. was in the habit of saying, "no" or "not" in response to Mary's incorrect response (e.g. "that's not the red one"), precipitating whining, crying, and refusal to work. The home teacher noticed the relationship between these two events, and further noticed that when the parent occasionally gave a correction without pairing a negative statement, the child did not misbehave. The home teacher began to chart the two responses using the individual data sheets, and worked with the parent on providing corrections without pairing negative statements with the correction. The home teacher used the various interactional strategies described in the *Instructor's Manual*, and had the parent read the article in the *Parent Readings* on corrections as a focus for further discussion and modeling. Results of these procedures are displayed in Figure 3.

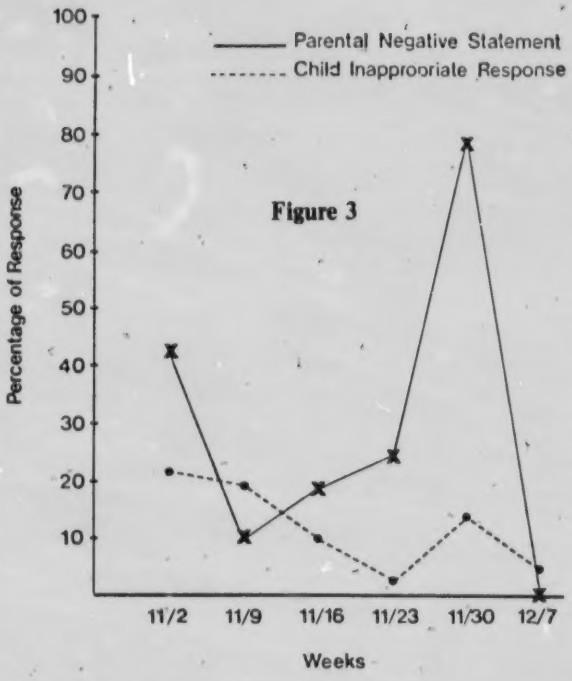

Figure 3

As can be seen, the child's misbehavior essentially mirrored the rate of parental negative feedback. Interestingly, the parent's rate of negative feedback was declining, with a corresponding reduction in child misbehavior, until the week of November 30th when a marked increase in parental negative feedback was observed. The child's misbehavior again shot up, mirroring the parent's response. In effect the data reflect what would appear to be a natural "reversal of contingencies": the parent's decrease in negative statements resulted in a corresponding decrease in child misbehavior; then when there was a sudden increase in negative statements, child misbehavior increased as well. This event constituted a convincing demonstration to the parent of the effect her behavior had on her child's behavior, and served to prompt virtual elimination of parental negative statements paired with corrective feedback. Because the home teacher had continued to monitor parent and child behavior, she was able to share the data with the parent and discuss the importance of providing corrective feedback without pairing negative statements.

As the above case study indicates, individualized programming for the child and the parent occurred within the context of a normal home visit. By being within the natural environment, the home teacher was able to accurately assess the parent-child interaction and isolate the controlling antecedent and consequent events. Intervention was individualized for the parent, with responses

recorded to ensure data-based decisions. The individual data sheets and the *Parental Behavior Inventory* provided a system by which the home teacher could record and track parent response over time. Furthermore, when parent behavior dramatically affects child response, both responses can be recorded and used to provide a graphic demonstration to the parent of the interaction between the two responses. Hopefully, home teachers will thus be accountable for changes in parent and child behavior, eventually being able to transfer control of the recording system over to the parent, making them functionally independent. Interestingly, a few parents began to record their own behavior using the data sheets; this proved to be extremely useful in not only transferring control to the parent, but it also was an effective intervention strategy as it served to prompt the parent to behave in a more appropriate fashion during her interaction with her child.

Obviously, providing individualized parent training and recording parent behavior in the natural situation can present some difficulties, however, the substantial benefits to be derived far exceed the minimal inconvenience occasionally experienced. Home teachers initially felt apprehensive about targeting specific parent responses for change and felt somewhat burdened by programming for both parent and child. However, as parents assumed more of the teaching responsibility for the child, the home teacher was increasingly free to devote her efforts toward improving the parent's teaching and management skills. Virtually every parent exposed to the Parent Program was writing her own Activity Charts by the end of the year with varying amounts of help provided by the home teachers. Many of the parents were able to function independently of the home teacher in terms of instructional planning (e.g. writing behavioral objectives, doing task analysis) and implementation, making use of a curriculum guide (PGEE) and their own copy of a developmental checklist (PGEE) for their child. With these parents, the home teacher served more of a supportive, consultant role, providing the parent with input to refine her skills. A set of generalization and maintenance strategies (*Instructor's Manual,* Boyd, et.al, 1977) was employed to increase the likelihood that the acquired parental responses would endure and be used in other settings, situations, or with other children in the family. Anecdotal feedback indicated that many parents were integrating the acquired techniques into their everyday routine, and were using common household objects as instructional materials. Parents also reported sharing the information they had acquired with neighbors and friends, sometimes using their copy of the *Parent Readings* as a focus for discussion.

Conclusion

In summary, the Portage Parent Program provides an operational approximation toward effective parent training within the natural environment. The program has demonstrated that a systematic, data-based, individualized parent training program can be implemented by home teachers who are teaching parents to work with their own developmentally delayed children. Although further work needs to be done to make the strategies effective with all parents, particularly in eliciting a greater degree of paternal involvement, the success of the program demonstrates that effective instruction can occur for both parent and child within a home-based delivery system, with the individualized program for one reciprocally enhancing the program for the other.

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VALIDATION OF THE PORTAGE MODEL IN PERU

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The project described herein was jointly funded by the Peruvian Ministry of Education and the Cooperative Educational Service Agency 12 (CESA 12) of Portage, Wisconsin through a grant from the Agency for International Development (AID).

Planning, development, and execution of the project were carried out by personnel from the National Institute of Educational Research and Development (INIDE) and the General Directorate of Initial Education (DIGEI) with technical assistance provided by a team from the Portage Project of CESA 12.

In 1972, the International Commission for the Development of Education, established by UNESCO, in its now classic report called "Learning to Be" (Faure & Herrera), established the tenet that education for preschool children is a primary and essential requisite for all educational and cultural policy. It recommended that the development of education for preschool children should be inscribed as one of the principal educational objectives for the seventies.

General statistics point out the truly dramatic need for increased provision of preschool services in developing countries in Latin America. Peru, according to recent estimates, has approximately 3.5 million children under six years of age, 3 million of whom receive no preschool services. From a regional perspective, the lack of coverage is even more serious if we consider that the existing educational services are concentrated in large cities and typically serve children from families in the higher socio-economic strata.

This situation is similar in other South American countries. Chile, for example, in 1977, served a total of 148,181 children, only 9.6% of the population between birth and six years of age (Filp & Latorre, 1978). A recent report (Thomas, 1978) shows that Venezuela presently has 2.5 million children of preschool age, and that 80% of this number live in cities; more than 1.2 million children live in marginal conditions. It was estimated that by 1979, of the 1 million Venezuelan children between four and six years of age, only 145,000 would be enrolled in preschool programs. This, with some variations, is the typical picture of service to preschool age populations in many developing countries. The problem takes on alarming proportions when one considers the vast urban and rural populations which are economically, socially, politically, and culturally marginal and that it is precisely in these populations that young children and infants make up the greatest proportion of the populace.

The interior of the marginal populations is where the situation of the preschool age child is most acute. Not only do these populations have the lowest rate of accessibility to essential services (among these preschool education), but they also live in a bio-psycho-social context that is most inadequate for normal child development. Such a situation has grave and at times irreversible effects on the child's development, as has been widely demonstrated by empirical research (Llanos, 1974; Monckeberg, Tisler, Toro, Gattas, & Vega, 1972; McKay, Sinistera, McKay, Gómez, & Lloreda, 1978).

This double negative effect, which converges on the child, has been projected by E. Pollitt to worsen rather than improve: "... if no major socio-political changes occur by 1980, at least three of the Andean countries (Colombia, Peru, and Ecuador) will have close to 1 million infants and preschool age children living in conditions of extreme poverty (income of $50 to $75 US per capita). These conditions will markedly restrict the chances these children have to enroll in formal educational institutions. Although these limitations are probably imposed in part by limited availability of schools, it seems likely that the major obstacle to enrollment will be the socio-economic conditions of the families". (Early Childhood Inverventions Programs in Latin America: A Selective Review, Cambridge, Massachusetts, Massachusetts Institute of Technology, 41, 1979.)

Faced with this panorama, the compelling necessity to give highest priority to these populations through

strategies and programs that are fitted to their special characteristics is evident.

In 1977 the Peruvian Ministry of Education joined the Cooperative Educational Service Agency 12 of Portage, Wisconsin in a collaborative effort to develop a cost effective, innovative strategy for providing educational services to poverty preschool children. The project's principal objective was the development, pilot implementation, and field testing of a home-based, non-formal preschool intervention program, utilizing community members to provide services to families with children from 3-5 years of age. The project entailed the development of a complete program package to include:

1) A culturally appropriate curriculum covering early childhood education as well as nutrition, health, and hygiene areas;
2) A training program for non-professional home teachers with relatively low levels of education and little experience with children;
3) A feasible work methodology, carried out with minimum disruption to daily family living patterns; and
4) A systematic evaluation, measuring program results and providing feedback for future modifications.

Program Characteristics

The central focus of intervention is parents in their primary and pivotal roles of providing for the basic caretaking needs and early teaching of their young children. Research has demonstrated the importance of this role in the physical and psycho-social development of the child (Klaus & Gray, 1968; Schaefer, 1970) and in his performance in school in later life (Hess, 1971; Wolfe, 1964). The parents are viewed as teachers and change agents in their own right as well as students of early childhood development and of educational methods (Schaefer, 1972). The program tests a methodology which attempts first to assure that parents acquire adequate child rearing and caretaking practices and, secondly, to guide and help them implement these practices in their daily routines. These objectives are difficult when dealing with the severely economically disadvantaged and the concomitant problems of lack of resources, poor health, lack of opportunity for life quality improvement, and extreme time demands for basic survival activities (planting, harvesting, cooking, etc.). The intent of this home-based program is not to add yet another demand on the already over-burdened parent but rather to assist in bettering the quality of the interaction between child and parent in the available time.

A second characteristic is direct intervention in the home rather than in a school or community center. It is here that environmental change will have the greatest impact (Bronfenbrenner, 1974; Mora, 1974). Working in the natural environment of the home helps to overcome difficulties of the possible psycho-social distance between school and home, problems of knowledge transfer and generalization from center to home, and costs of building infrastructures adequate to accommodate all those in need of service. The home offers the real possibility of including the extended family in all program procedures, thus amplifying the possible impact of the intervention to all the children in the family (Gray & Klaus, 1970; Ware, Orgon, Olmsted, & Moreno, 1974).

Thirdly, the program offers a developmentally sequenced curriculum designed to be used as an evaluation and programming instrument. Each child's particular strengths and weaknesses are identified so that a personalized program can be developed, based on the child's present knowledge and abilities. The curriculum serves as a criterion referenced instrument to measure short and long term child progress. Implementation of the curriculum is based on a prescriptive teaching approach (Lindsley, 1968; Shearer & Shearer, 1972) where specific objectives are proposed, taught, evaluated, and then adjusted for future teaching, based on feedback from evaluation results. This approach affords constant monitoring of program implementation as well as providing specific detailed work plans to guide parents in the teaching of their children.

The last major characteristic is the use of non-professional, community personnel to carry out the program. Use of community non-professionals assists in the communication and understanding between parent and program staff, facilitates entry and acceptance into the home, and avoids possible problems of prejudices and divergence of social values between program implementors and program recipients (Bastias, Filp, Torres & Zuleta, 1978). The training of community personnel also provides the community a cadre of knowledgeable persons dedicated to the problems of the child and family. Although sufficient research is unavailable, there are indications that non-professionals can do a more than adequate job in early intervention programs in their communities (Schortinghuis & Frohman, 1974; Filp et al, 1978).

Program Description

Prior to project implementation staff adapted the official Peruvian Initial Education curriculum for use by non-professional personnel and parents in the home. The cur-

riculum consists of general objectives formulated to promote the integral development of the child within his society and more detailed specific objectives which relate to nationally established social, cultural, and political objectives. The curriculum covers three areas of development: 1) bio-psychomotor, which includes fine and gross motor, health, hygiene, and personal safety objectives; 2) intellectual, which includes cognitive and language skills; and 3) socio-emotional, which includes social skills of the child in relation to himself, his family, and the community as well as music and folklore appreciation. To this curriculum were incorporated adapted objectives and activities from the *Portage Guide to Early Education* (Bluma, S., M. Shearer, A. Frohman, J. Hilliard, 1976) as sub-objectives to the specific objectives. Adaptations were made on the basis of cultural appropriateness, feasibility of implementation given the resources available to the child in his home, and compatibility with Peruvian Initial Education goals and objectives.

The resultant curriculum consists of three parts. The first is the basic structure which contains the general, specific, and sub-objectives and their interrelationship. The second is a checklist listing all the sub-objectives in each of the three areas, sequenced according to child development norms. This checklist was developed as an initial assessment and curriculum programming instrument. The third is a set of suggested activities for each objective in the checklist. Each activity sheet is actually a work plan for the home teacher, which suggests how she might evaluate, teach, and reinforce the objective; what to do if the child has difficulties; how to present it to the parents; and how to optimize generalization and practice of the targeted skill.

After developing the curriculum, pilot programs were implemented within the existing administrative structure of the Ministry of Education's non-formal initial education programs. Thus, the programs were under the direct administration of local, zonal, and regional education authorities. A professional initial education teacher supervised and coordinated the activities of the home teachers in each community. In addition to these responsibilities, she served two families during the program to give her first hand experience with the work methodology and the families in the community.

Home teachers (animadoras) were selected from the study communities by local educational staff and the professional coordinating teacher. On the average, the home teachers had a tenth grade education in the Lima programs and a fifth grade education in the Cuzco communities. During the year they were given a total of four weeks' training in child development, teaching techniques, construction of educational materials, and health, hygiene, and nutrition practices. Home teachers met weekly with the coordinating teacher to discuss problems and possible solutions or to receive additional information from guest speakers. Each home teacher served ten families, visiting each family weekly for one hour. Upon initiation of the program, home teachers administered the checklist to the study children and then, with the help of the coordinating teacher, selected and planned objectives to be taught.

Each home visit followed the basic steps of the Portage Model. Additionally, the latter part of the visit consisted of free play activities, encouraging positive verbal and social interchanges between parent and child. During the home visit the teacher and mother also discussed nutrition, health, and hygiene topics such as economic menu planning, food preparation, and the purpose of vaccinations.

Due to the lack, or in some cases total absence, of toys and educational materials in the homes, home teachers used available materials such as food cans, scrap wood, and stones to make pedagogical materials for the weekly activities. These materials were either made by the home teachers in group work sessions or were made with the mother during the home visit. Home teachers also demonstrated the educational utility of household items such as pots and pans, tableware, and weaving materials.

Evaluation Design

To measure program effects on parents and children, an experimental-control group, pre-post test design was employed, utilizing guidelines established by Campbell and Stanley (1963) for quasi-experimental designs, where complete random assignments are not possible. Program effects were measured independently in the two sites — rural and urban. Each site represented an independent test of the research hypotheses.

The general research hypotheses of this project were:

1. Children in experimental groups will show significant gains in intellectual achievement and developmental skills, when compared to control children, as measured by the adapted *McCarthy Scales of Children's Abilities* (McCarthy, 1972), and a criterion referenced instrument constructed from a sample of the curricular objectives.
2. Children in experimental groups will show significantly improved nutritional status when compared to control children as measured by weight for age and height. Although food supplements were not given to experimental families, it was hoped that the

information given the mothers in nutrition, health, and hygiene would impact on the dietary intake and health care of program children.

3. Parents in the experimental program will demonstrate more knowledge about child development, early stimulation, and adequate nutrition and health practices when compared to control parents as measured by a parental questionnaire (Llanos & Alcántara, 1977).

Urban — The urban sample was composed of families who lived in the "Pueblos Jóvenes" (urban ghettos) of Quince de Enero and Villa Señor de los Milagros in Lima. The communities were selected on the basis of absence of preschool services, low economic status, and community leaders' willingness to participate in the study. Sixty families were assigned to treatment and sixty to the control group within each of the communities, thus providing a total of 240 subjects for the urban study. Families were assigned to experimental and control groups by a randomized block selection procedure through which community blocks were stratified according to house type (straw and wood, brick, or a combination).

Rural — The rural sample was composed of 135 Quechua speaking families living in the villages of Ccolca, Moccoraise, Parapujyo, Banda, Antisuyo, and Wakaytaki, all located in an area seventy kilometers south of Cuzco. Selection criteria were the same as for the urban study communities.

The first four communities (ninety families) were assigned to experimental treatment and the last two (forty-five families) served as controls. The small size of the communities negated the possibility of control families in the same village. All instruments applied to parents and children were adapted for use with rural populations and administered in Quechua. In addition, a formative evaluation was conducted to monitor project progress in meeting program objectives and to provide feedback on program quality.

Finally, a cost analysis was carried out to identify unit costs for families served and teachers trained, and to project these costs for possible future expansion efforts.

Evaluation Results

Analyses of experimental and control group differences show that the program did have a significant positive impact on the developmental status of program children. In the urban sites differences between experimental and control groups were statistically significant on the Perceptual Performance Scale of the *McCarthy Scales of Children's Abilities* (McCarthy, 1972) and approached statistical significance on the General Cognitive Scale. On the criterion referenced instrument experimental children did significantly better than control children in all three areas tested: Bio-psychomotor, Intellectual, and Socio-emotional. Differences on all of the above measures were of the order of 1/2 a standard deviation or more.

In the rural sample experimental children gained significantly more than control children from pre to post testing on the Verbal, General Cognitive and Memory Scales of the McCarthy and differences approached statistical significance on the Perceptual Performance Scale. In an attempt to obtain a culture free measure of general intelligence, the Leiter International Performance Scale (Leiter, 1969) was administered to the rural children. Experimental children gained an average of twelve months mental age from pre to post testing while control children gained only four months mental age in the same period. These data indicate that, in general, the program had a stronger and broader impact on the developmental status of rural children. Also the poor performance of control children substantiates the urgency for providing preschool services in marginal rural areas.

Differences between experimental and control children on anthropometric measures were not significant in either urban or rural study sites. With the high rate of inflation during the program year (65% by government estimates), nutritional intake of children could have been much more dependent on the families' purchasing power than on knowledge of good nutritional and health habits. This raises the possibility that in order to impact on children's nutritional status in areas of extreme poverty, food supplements may be necessary.

The Parent Questionnaire, measuring knowledge, beliefs, and practices of child rearing, consisted of four areas: Child Development, Nutrition, Health, and Hygiene. Comparisons of change scores from pre to post testing of urban parents show small significant differences in favor of experimental parents in the Child Development and Hygiene areas. In the rural sample no significant differences were found for the overall sample. While small significant differences were found between parents of different communities these do not appear to be related to child change variables or treatment assignment. Lack of positive results on the rural parental questionnaire can be, in part, explained by the initial resistance of parents to respond to the questionnaires. This resistance could have invalidated some of the data. Also the questionnaire may

not have been sensitive enough to measure some of the observed behavioral changes in parents.

Formative Evaluation

In the first year the project served a total of 210 families and over 85% of the families that began in the program continued throughout the year. Families received an average of thirty-two visits during the year and worked on an average of sixty-three objectives in the urban sites and fifty-four objectives in the rural sites. Data indicate that parents worked on approximately two new objectives per week and spent from two to four hours per week working with their children on these objectives.

Parents actively worked in the program and thought highly of it. Over 90% of the parents said that the program was beneficial to their children and the great majority said they would like to continue in the program the next year. Also observational and anecdotal information attest to substantive changes in the home environment. Home teachers and evaluation personnel noted the increased amount of play and educational materials available to the children in their homes. Staff also noted an increased responsiveness on the part of the parents to questions and willingness to discuss their children.

In the majority of the families the mother was the person who worked with the home teacher and the child during the week. In approximately half of the visits the father, an older brother or sister, or other family member was also present during the home visit. The presence of other family members would indicate the possibility of diffusion or transfer of program information to the entire family.

Cost Analysis

Economic analyses of the project show that although unit costs during the first year were higher, projected costs for future expansion efforts are calculated to be equal to or less than those of other formal and non-formal preschool programs in Peru (Winkler, 1979). The higher initial costs are attributed to preparatory work needed to develop the training program and curriculum and the use of foreign technical assistance personnel. Unfortunately data on the effectiveness of other programs is not available thus making a thorough comparative cost-effectiveness analysis impossible at this time.

Project Results and Conclusions

At the end of the first year of operation project staff had trained regional and zonal supervisory staff, four master teachers and a total of twenty-five home teachers in the urban and rural programs. Staff developed a training manual (Loftin, 1979), designed to be used by master teachers who would assume the major training responsibilities in the future. A nutrition, health, and hygiene manual (Riboty, 1979) was also developed to assist in the areas of health care and economically feasible nutrition practices.

After analyzing this project's final report (Jesien, Llanos, Bustamante, Alcantara, Palma, Loftin and Winkler, 1979), the Peruvian Ministry of Education has determined that the adapted Portage home-based model is valid for use in Peru and that it is a cost-effective alternative for providing urgently needed early education services to poverty families in rural indigenous and urban communities. Ministry staff are now making plans for significant expansion of the program to other regions within the country and extending services to include families with children from birth to three years of age.

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TEACHING THE RETARDED CHILD AT HOME

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Parents have always taught their retarded children in their homes. It is only natural that they have done so since teaching in the home is an integral part of child-rearing practices. Sometimes the teaching aspect of child-rearing practices is difficult to detect because much of it occurs when the parents are doing something else. Nevertheless, teaching is occurring in these informal occasions.

In recent years parents, particularly those living in complex industrial societies, have not been secure or confident about the effectiveness of their efforts. They wonder whether what they have been doing is in fact helping their children develop to their potential. This concern is manifested in their frequent search for advice from physicians, nurses, teachers, clergymen, and most often from relatives and friends.

With the advances in behavioral psychology over the past 15 years, it is now possible for parents of retarded children to turn to recently trained educational psychologists and special educators for reliable assistance. These professional educators are privy to new knowledge concerning the nature of retardation and to teaching-learning techniques for retarded children. Furthermore, and this is a most important point, the new generation of educators believe that they can serve parents best, not by taking on the teaching role themselves, but by helping parents through regular guidance and demonstrations to learn new teaching skills so that they can be maximally effective in teaching their own children.

The purpose of this paper is to describe how parents can teach their retarded children in the home and do it in a way that will (1) enhance their children's development, (2) promote in them a positive attitude about learning, and (3) provide satisfaction for parents. The first part of the paper summarizes what we know about parent training programs in general, the state of the art. The second part outlines the recommended parent training program, and the third considers implications of the recommended program for the Asian countries.

Parent training: State of the art

Parent training guides, which have greatly proliferated during the past 10 years, fall into two major categories: (1) How-to-do-it books and multimedia packages, and (2) face-to-face training programs. How-to-do-it books and multimedia packages in the form of film strips, audio tapes, and coordinated printed materials give parents recipes on how to deal with everyday child-rearing problems, behavior disorders, and problems of developmental retardation. They are designed for middle and upper socioeconomic parents with at least a high school education. In the U.S. they enjoy good sales but few have been assessed for their utility. That is to say, few of these recipe books have been evaluated to determine whether they change the child-rearing and teaching behavior of parents in positive ways. Those books and multimedia packages that have been evaluated have not been shown to be effective without some kind of assistance from professionals or paraprofessionals (Bernal & North, 1978). As the situation stands, it seems that reading how-to-do-it books and exposure to multimedia packages of parent training, do not substantially influence the child-rearing and teaching behavior of parents. However, some of the materials of this sort may have potential for effectiveness if accompanied by some kind of tutorial or program of instruction.

Face-to-face parent training programs are teaching programs involving professional or paraprofessional teachers and an organized set of teaching materials. In the U.S. they have evolved with support from federal, state, and local agencies because of the recognition in recent years that active parent involvement is essential for effective early childhood education and particularly for young handicapped children (Bronfenbrenner, 1974). Some face-to-face training programs are designed to be self-sufficient, that is to function as an independent program; others aim to operate in coordination with a preschool program, that is, supplement teaching that occurs in a school. Interest here is in the self-sufficient or home-based program.

Face-to-face, parent training programs are quite diverse. They differ in strategies: Some emphasize parent counseling, others focus on a combination of parent counseling and teaching parents how to teach, and still others center on teaching parents how to teach. They also differ

theoretical orientations. Counseling procedures may follow psychoanalytic, client-centered, or behavioral theories; teaching parents how-to-teach may be based on a cognitive or behavioral learning model.

There has been more research on the utility of face-to-face parent training programs than on how-to-do-it books and multimedia training packages because face-to-face training programs were designed not to sell books but to deliver a needed service for children, particularly severely handicapped children. Perhaps the most general conclusion that can be drawn from these investigations is that programs with clearly defined objectives and procedures tend to produce better results than those with vaguely defined objectives and procedures.

In the light of this very brief sketch of the state of the art of parent training programs, we ask the question that is central to this paper. Which of all the available approaches is most promising for parents of retarded children? We cannot recommend any of the current how-to-do-it books or multimedia packages. We can however, recommend a face-to-face parent training program that has been demonstrated to be effective in helping a large number of young handicapped children and their families. It is known as the Portage Project (Shearer and Shearer, 1972 and 1976).

The Portage Project

The Portage Project, launched in 1969 by a grant from the Bureau for Education of the Handicapped, U.S. Office of Education, was established to develop, implement, and demonstrate a model program to serve young handicapped children in a rural area in the northern part of the U.S. In 1970, the first year of operation, 50 children and their families were provided services through federal, state, and local funds.

The model may be characterized as follows:

1. An educational program that takes place in each enrolled child's home and is implemented by home teachers who visit each family weekly
2. An assessment procedure which inventories the child's competences as a basis for preparing an individualized curriculum
3. Teaching methods based on the applied behavior model
4. Curriculum planning with the expectation that children will achieve each prescribed goal weekly
5. Weekly staff meetings of teachers for the purpose of problem solving and curriculum modification (Shearer and Shearer, 1976).

Research on the utility of the Portage Project shows that the average IQ of the children was 75 on enrollment (Cattell Infant Intelligence Scale and Stanford-Binet Intelligence Scale) and after an 8-month period in the program, there was an average IQ gain of 18.3, and a mental age score gain of 15 months (Shearer and Shearer, 1976). Furthermore, data comparing the performance of the Portage children with those attending local classroom programs for culturally and economically disadvantaged preschoolers showed a significant difference in favor of the Portage children in terms of their mental age and IQ scores (Catell Infant Intelligence Scale, Stanford-Binet Intelligence Scale, and Gessell Developmental Schedule), as well as in their language, academic, and socialization skills as measured by the Alpern-Boll Developmental Profile (Penistol, 1972).

The Portage Project has been approved for dissemination and replication in the U.S. by the Joint Dissemination Review Panel. At the present there are numerous replication sites in the U.S., and adaptations in foreign countries including England and Wales (Revill & Blunden, 1979; Smith, Kushlick, and Glossop, 1977) and Peru (Jesien, Aliaga and Llanos, 1979). It has also been translated into Japanese and French.

This in general is how the program works:

Teacher training

The teachers, some professional (certified) and some paraprofessional (not certified), are trained by a master teacher who uses didactical and on-the-job-training methods. Training supervision and staff meetings are coordinated from a central location which, in this case, is a school district office. The project could operate from an institution for the retarded, a special school, or a governmental office.

Orienting the parents to the program

When parents are notified that they are eligible for training without charge and the parents show interest, a teacher visits the home and explains the training procedures and answers questions. The teacher also assures them that they can readily learn the teaching techniques and will be able to carry out the program without the teacher's supervision.

Assessing the development of the child

If the parents agree to accept this service, the teacher assesses the developmental status of the child in terms of the dimensions of development, namely (a) motor development, (b) self help abilities, (c) socialization skills, (d) cognitive abilities, and (e) language and communication competencies. She does this by means of the *Checklist*

(Bluma, Shearer, Frohman & Hilliard, 1976a) which is simply an inventory of the things the child can do. She finds out what the child can do either by direct observation or by asking the parents.

Setting teaching goals, assigning teaching tasks, and recording progress

The *Checklist* provides the teacher with information for beginning the personalized curriculum or teaching program. He or she does this by selecting goals and assigning teaching tasks to achieve them. The teaching goals are based on the child's competencies as revealed by the *Checklist*. For example, the child may be able to walk but not go up and down the stairs alone. Hence, the teacher might select walking up and down the stairs as an initial teaching goal. Or the child may be able to eat solid foods if given by the mother on a spoon. Therefore, the teacher might select as the second initial teaching goal, eating independently with a spoon.

The teacher consults the *Portage Guide to Early Education* (Bluma, Shearer, Frohman, and Hilliard, 1976b), and demonstrates each teaching procedure designed to help the child attain the selected goal or goals. The teaching procedures consist of applying behavior principles which focus on techniques for getting attention, giving clear instructions, prompting responses, and reinforcing correct responses (Bijou, 1977; Bluma, Shearer, Frohman & Hilliard, 1976c). The teacher also shows the parent how to record progress on the graphic forms she provides.

When the parent's performance indicates that he or she can carry out the teaching model, the teacher prescribes the training procedure for the coming week. She also suggests family routines that might promote pleasant and productive parent-child relationships.

Revising and extending teaching programs

In the next home visit, usually a week later, the teacher discusses and reviews the parents' teaching effort and reviews the child's progress records. If the child has made little or no progress in learning the assigned task or tasks, the teacher revises the program usually by breaking the tasks into smaller units, models the revised version of the teaching program, checks out the mother on the revised teaching procedure, and assigns the revised task for the coming week. If, on the other hand, the child has made satisfactory progress the teacher introduces the next task in the sequence as shown in the curriculum Card File and again models the teaching technique, gives the parent practice until she is comfortable and proficient, and assigns that task for the week. This procedure is continued and more tasks are added as the child makes progress. Thus, within a short while, a child may be working simultaneously on three tasks in different developmental areas such as socialization, self help, and preacademics.

When a child's problem behaviors interfere with learning, such as inattention or negativistic behavior, the teacher suggests techniques and programs designed to weaken or eliminate them.

The home teacher may also provide books, toys, educational materials, and play equipment to increase the child's opportunities for learning. When she does supply such additional materials and equipment, she shows the parents how they may be used not only to augment the child's skills and knowledge, but also to enhance enjoyment and satisfaction.

Implications for the Asian countries

If the Portage model of parent training is attractive to delegates from the Asian countries, the basic Portage Project materials -- the assessment *Checklist*, the *Manual for the Portage Guide to Early Childhood Education*, and the learning activities Card File -- must be translated and adapted for each country. A mere translation will not suffice. A thorough adaptation is essential because (1) the developmental sequences of motor, self help, communication, cognitive and socialization skills that make up the *Checklist* must correspond to the developmental progressions of children in each country, (2) the Manual of instruction for the *Guide* must be written in a way that is understandable and meaningful to the parents and teachers of each country, and (3) the learning activities listed on the Card File of the *Guide* must be compatible with the family practices in each country.

Operating the parent training would require the establishment of an office or center in some agency to (1) train paraprofessional teachers and supervisors, (2) coordinate the fieldwork of the teachers, (3) keep records, (4) duplicate materials, and (5) hold weekly staff meetings to solve parent training problems as they arise and to further staff training.

Another activity of the office would be to find, through contacts with agencies and others, families in the area that have one or more retarded children. This function would establish a list of parents who are potentially eligible for training.

Parents who receive training should be viewed as one of the sources for recruiting additional paraprofessional teachers. As the ranks of teachers increase, other centers

could be established to expand the services to parents. Eventually there would be a national network of centers serving parents in urban as well as rural communities.

A model for such a translation and adaptation might be the Peruvian venture. The Peruvian version of the Portage Project was made in Lima by a team consisting of Spanish-speaking members of the Portage staff, and Peruvian administrators, teachers, and paraprofessional workers. Their final products were derived from the actual experiences of home teachers working with a group of parents and children who were living in poverty socioeconomic conditions. Among other things, the teachers made the materials for assessing the children on the *Checklist* and for the learning activities on some of the cards in the activities file.

Summary

The state of the art of parent training suggests that face-to-face procedures are more promising than how-to-do-it books and multimedia packages. It further suggests that training for parents of retarded children is probably best carried out in a face-to-face program which includes an inventory-type assessment procedure, a method for setting definite and easily obtainable goals, a clearly stated set of teaching techniques, and a simple recording system. These specifications fit the approach developed and refined by the Portage Project in the U.S. during the past 10 years. Outcome research on the Portage Project consistently shows that handicapped children gain substantially in developmental and IQ scores and that the participating mothers and children enjoy the program.

To use the Portage model of parent training in other countries, the materials have to be translated and adapted, teachers and supervisors have to be trained, and coordinating centers have to be established.

Although this approach will require some preparation time, it promises to assist parents substantially in their efforts to teach their retarded children. Gains would be expected to accrue to parents in the form of personal satisfaction, and to their children in the form of enhanced development.

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ECHOES OF A HEAD START CLASSROOM

Betty Shands

Can a Head Start classroom mainstream special needs and non-handicapped children? This question has been asked by every Head Start teacher since Congress mandated in 1976 that "... no less than 10% of the total number of enrollment opportunities in Head Start programs in each state shall be available for handicapped children... and that services shall be provided to meet their special needs." (P.L. 93-644). According to the Milwaukee Head Start Child and Family Development Center (CFDC) Model for Training classroom the answer is YES.

The Model for Training classroom (Model T) is one of several programs administered by CFDC that provide quality services to Head Start children, both normally developing and handicapped. The unique Model T approach has successfully integrated young children with exceptional educational needs into a mainstream setting.

Model T is designed to accomplish mainstreaming through an individualized program based on the Portage Project Model for Early Education. The Portage Model was selected by the Milwaukee City Wide Policy Council in 1975 for Model T because of its emphasis on parental involvement and demonstrated effectiveness in producing positive change in children's developmental status (Boyd & Boyd, 1974). The Portage Project, originally funded in 1969, is a home-based intervention program that involves parents directly in the education of their young children. This is accomplished through bi-weekly home visits to the families' homes by a home teacher. The home teacher helps parents learn to observe their children's behavior, set bi-weekly learning goals, and carry out educational activities to assure that the child achieves the established goals (Shearer & Shearer, 1972).

Mainstreaming in Model T

The integration of all children in the mainstream setting of the Model T classroom is carried out by emphasizing varied teaching techniques and the utilization of the resources available through Milwaukee Head Start.

Assessment — The *Alpern Boll Developmental Profile* is employed by the Model T teaching staff when a child is enrolled in the class. This initial assessment has two purposes: first, it screens the child to determine whether the child needs further evaluation by a qualified diagnostician and second, it allows the teacher and parent to pinpoint the child's general areas of strength and need. This assessment is completed during the first home visit.

Following the Alpern Boll assessment, the parent and teacher identify the specific skills that the child has already acquired as well as skill deficits, using the *Portage Guide to Early Education* (Bluma, Shearer, Frohman & Hilliard, 1976). Thus, the assessment procedure enables the teacher, together with the parent, to identify the child's unique educational needs in the developmental areas of language, cognition, motor, self-help, and socialization.

If a child is suspected of a significant developmental delay or handicap, based on the results of the assessment, the teacher refers the child for a multidisciplinary team evaluation. The CFDC staff then determines if there is a need for additional information. An evaluation strategy is planned and appropriate services are contacted. Once the evaluation is completed, CFDC and classroom staff draw all of the information together into an individualized education plan for the child.

Curriculum Planning — The child's educational plan is the basis for setting long and short term goals for the child that rely on his strengths to satisfy his learning needs. Each Monday the staff of the Model T classroom meet to plan objectives and activities for the week. The staff reviews each child's progress during the previous week, updates his PGEE Checklist, and chooses goals to be worked on during the week. Each child is then assigned to a teacher who prepares the week's objectives and activities for each child to work on during individualized sessions.

Each objective is written in behavioral terms so that the teacher will be able to determine the child's daily progress toward accomplishing the goal. The objective is recorded on an activity sheet that also includes the reinforcement to use when the child is successful and a correction procedure to be used when the child has difficulty. Each day, the child's progress is also recorded on the sheet.

Objectives for each child are drawn from the five developmental areas to ensure an integral approach. However, once the child's program is underway, the area in which he has the greatest need may be emphasized to help the child overcome specific behavioral deficits.

The child's parents assist the teacher in planning the individual curriculum and are encouraged to help prepare the activity sheets. The involvement of the parents in the actual preparation of the activities facilitates the transfer of the teaching from the classroom to the home.

During the curriculum planning session, the teacher also prepares group activities for the week. They are planned around a theme such as community members or the seasons and in the areas of art, music, language, and motor.

Instruction — Each day's instruction is carried out through a variety of large and small group experiences and an individualized session for each child. The different daily activities are planned to teach, maintain, and generalize the targeted skills as well as to provide opportunities for child directed creative expression experiences.

The day is divided into two sessions: morning and afternoon. Each is attended by 12 children. The following schedule shows the order of activities and the time allotted for each.

Teacher preparation	30 minutes
Breakfast or Lunch/clean up	45 minutes
Large group/theme activity	20 minutes
Small group/individualized instruction	45 minutes
Gym/fine and gross motor activities	30 minutes
Language activities	15 minutes
Lunch or snack/home	15-25 minutes

The integration of all children is in part carried out through the different group activities. All of the children participate in the group activities; special needs children are never segregated from the non-handicapped. Peer modeling and instruction is a technique frequently used during group activities to enable a child who is acquiring a given skill to learn through observation and instruction provided by another child who has already demonstrated proficiency in the skill.

Classroom staff and parent volunteers also assist children during group activities as needed. This assistance varies from giving the child physical help to providing visual and verbal aids that are appropriate to the activity and the child's skill level. Equipment and activities are modified and adjusted so each child can actively participate. The philosophy of the "least restrictive environment and technique" is tenaciously adhered to.

Awareness activities are also carried out to familiarize all of the children with individual differences. These activities introduce different handicapping conditions and equipment used by individuals with impairments and provide the children with opportunities to discuss the condition and interact with the equipment. Each child is encouraged to identify ways that they are different from other children.

Individualized instruction plays a major role in the Model T mainstreaming process and each child's unique needs are addressed and each one is encouraged to attain his minimum potential at his own rate. An individualized instruction session lasts approximately 15 minutes per child per day. The session takes place during Small Group/Free Choice Activity moments during the day. In this way, while each child has his individualized session, the others are engaging in activities of their choosing while being monitored by classroom staff or a volunteer. Of course, each accomplishment is enthusiastically recognized.

The activity sheets prepared during curriculum planning sessions are employed following the Portage Project teaching procedures. Baseline is recorded at the beginning of the week to determine the child's skill level on the targeted objectives. The activity sheet directs the teaching of the skill and assures that the child is appropriately reinforced for successes and provided with adequate help when he experiences difficulty. The child's progress is recorded at the end of each session and postbaseline is taken at the end of the week to determine if the teaching techniques used, have in fact resulted in the desired behavior changes. This information is used to select the objectives for the next week.

The sharing of the child's classroom accomplishments with the parents is carried out by sending home "Achievement Telegrams" with the child. These bulletins are positive reinforcement ditto sheets that state what the child has accomplished, or emerging skills that the child is close to mastering that the parent should reinforce at home.

The Home Visit

The Model T staff make semi-monthly home visits to each child's home. One morning session and one afternoon session per week is kept open for these visits, and classes are not scheduled. The Portage Project home teaching process is the basis of the home visit, through which the skills the child is or has been working on in the classroom are transferred to the home. Parent training is stressed during the home visit.

The home visit is comprised of three sections: prescribed activities, home visit activities, and parental concerns. In much the same way that skills are taught to the child during the individualized sessions in the classroom, the prescribed activities are presented in the home. However the difference is that the parents' acquisi-

tion of skills necessary to work independently with their child is stressed during this part of the home visit. While the teacher is presenting the prescribed activity, she models the teaching procedure. The parent then demonstrates the teaching of the activity.

Based on this demonstration, the teacher reinforces the parent and provides corrective feedback. An average of three prescribed activities are presented each week.

The home visit activities are informal opportunities to work on maintenance and generalization of the skills taught in the classroom. This section of the home visit is also used to show the parents how they can use the skills they acquire during their demonstrations to turn everyday activities into positive educational interactions with their child.

During the final part of the home visit the teacher and parent discuss the child's curriculum, update the child's Checklist, discuss whatever concerns the parent and/or teacher may have, and share general program information.

Benefits of Mainstreaming in Model T

The integration of young children with exceptional educational needs with other children benefits not only the special child but also the non-handicapped children in the classroom. The system and techniques employed by the Model T classroom are designed to facilitate the integration process and benefit all the participants.

The teaching methods help each child learn at their own rate those skills they most need to learn. Accomplishing small steps encourages a positive self concept and motivates working toward greater achievements. The special child is also sure to receive a coordinated program and instruction that responds to his identified needs.

Classroom methods help the non-handicapped child learn how to cooperate with other children to accomplish group goals as they discover that all children can do some things better than others. Working and playing together, all of the children have the opportunity to make friends with many different types of individuals.

Of course the benefits for parents are very important. Through the assessment process, volunteering in the classroom, and the home visits the parents of the special needs children are able to understand more realistically their child's capabilities. This understanding, together with the skills they acquire, help them feel less isolated and more able to help their children develop. As parents come to feel better about their children and their relationship with them, they feel better about themselves too.

Summary

Again and again literature on early education has indicated the importance of the first five years of life on a child's subsequent learning and parent/child relationships. This is true for all children. The handicapped child in particular needs the chance that early identification and education provides them. The Model for Training classroom is one program that truly helps each child realize his maximum potential.

The Model for Training classroom is a demonstration program that operates under the auspices of the Child and Family Development Center of the Social Relations Services Development Commission and is funded by the Administration of Children, Youth and Families.

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ON BEING PRECISE

Susan J. Weber
A.H. 'Susie' Frohman

pre•cise /pri-'sis/ 1: exactly or sharply defined or stated 2: minutely exact 3: strictly conforming to a pattern, standard, or convention 4: distinguished from every other: *syn* see CORRECT *ant* imprecise, loose

Teachers are described as dedicated, creative, intelligent, and cheerful. Why not precise? Preciseness is a commendable characteristic and suggests work that is special and explicit. A precise teacher can state what is to be taught, what will be provided for the learner, and what the learner must do to reach the criteria stated. An honest evaluation of the attempted teaching method can then be made. If the child's behavior does not change, if he does not learn anything, a precise teacher will immediately detect the ineffectiveness of the teaching method and plan another strategy. Since behavior change or learning is the primary aim of a teacher, an effective method to consider is precision teaching. It provides a continual data-based process for individual curriculum modification and increases the likelihood of success for both the child and the teacher.

The fundamentals of precision teaching can be simplified into four steps (Lindsley, 1967):

1. Pinpointing the behavior
2. Recording the behavior
3. Consequating the behavior
4. Recording

If success is not achieved during these four steps, a fifth step is added:

5. Try, try again

Pinpointing the target behavior is essential. One can neither effectively teach nor evaluate that which is not clearly stated. Pinpointing is done through the knowledgeable use of task analysis and is written as a behavioral objective.

A behavioral objective (Mager, 1962) states the behavior or skill the child will be taught. There are three important characteristics of a behavioral objective. It must be (1) observable, (2) measurable, and (3) specific. Therefore, a child must demonstrate a specific skill that can be seen or heard and that can be counted so it can be determined whether or not the child has achieved the skill. An efficient method of writing behavioral objectives is to use the formula WHO/WILL DO WHAT/UNDER WHAT CONDITIONS/TO WHAT DEGREE OF SUCCESS.

WHO — refers to the person who will perform the skill.

WILL DO WHAT — refers to the specific behavior that must be demonstrated. These behaviors must be unambiguous and observable; such as will hop, jump, name, point, cut, etc. Terms that are *not* specific and observable should not be used, such as listen, recognize, identify, know, etc.

UNDER WHAT CONDITIONS — refers to the amount of aid or the type of aid, with which the child will perform the behavior. It is not sufficient to state "with parental guidance", "with physical assistance", or "with verbal cues". We must indicate exactly what kind of assistance or cues, such as "in imitation", "with an initial model", etc.

TO WHAT DEGREE OF SUCCESS — refers to how successful the child's performance must be to assure you that the skill has been mastered. It is written in terms of the number of times the behavior must occur to attain credit/the total number of opportunities presented (4/4 X's).

An example of a behavioral objective following this format is:

Keri will name cup, plate, and spoon with an initial model 4/4 X's each.

The specificity of a behavioral objective is accomplished through the use of task analysis.

Task analysis involves selecting a long term goal and breaking that goal into smaller sequential steps based on the child's present skill level. The target behaviors, which are intermediate steps of the long term goal, are tailored to the individual rate and style of learning and the needs of each child. Different types of aid can be specified to develop a sequential hierarchy of skills to be taught to achieve the long term goal selected. An example of the hierarchy of the broad categories of aid is:

Physical Aid
Visual Aid
Verbal Aid
Without Aid

Each of these broad categories must be further defined to state the explicit type of assistance needed to learn a skill.

The usefulness of the hierarchy of aids may be best illustrated in the task of teaching a person to swim. It is easier to learn to swim if there is someone physically helping you while you are in the water than if you are watching (visual aid) someone swim and then try to imitate their actions. Yet watching someone swim would give you more assistance than simply being told what to do (verbal aid). The most difficult situation would be receiving no aid as you are thrown into the water and told to swim, resulting in a sink or swim situation.

It is important to remember that the type of aid must be based on the present level of functioning in relation to that particular skill.

Recording, the second step, is obtaining the baseline data on each behavior pinpointed. It is important to observe how the child is performing the targeted behavior so it can be determined if the behavior is appropriate to the child's level of functioning and if it will be accomplished within a designated period of time. Based on this information, a teacher may have to adjust the behavior to increase or decrease its level of difficulty. Baseline data is obtained before an intervention strategy is employed to teach the skill.

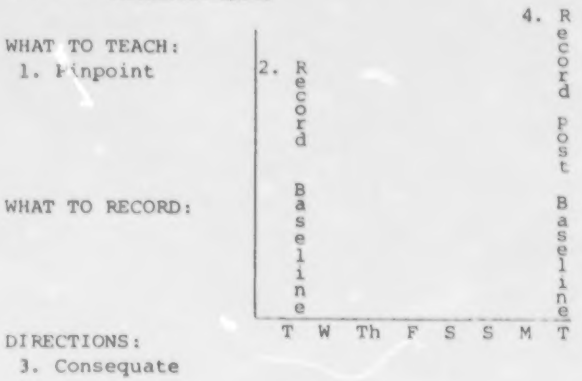
Consequating the behavior relates to the teaching strategies implemented to teach the child the target behavior. This includes the materials, the place to work, manner of presentation, correction procedure, and the type of reinforcement.

Recording again is necessary to determine if the child has achieved the degree of success stated in the behavioral objective. This is done by collecting post-baseline data after the intervention time period.

If the child has not learned the skill, as evidenced by the post-baseline, you must *try, try again.* Utilizing the same formula may be futile but there are several options available in designing the new strategy. Adjusting the behavioral objective may be one. The condition can be changed by increasing or decreasing the amount of aid supplied. Also a different correction procedure may result in a more effective teaching method. Lastly, the reinforcement may have lost its appeal and an alternate or stronger one should be supplied. Occasionally, the materials themselves become a distraction and a substitution must be made.

Data, collected in a study of 400 teachers using the precision teaching method (Lindsley, 1966), indicated that almost 85 percent of the teachers succeeded on the first try, ten percent succeeded on the second, and the last five percent succeeded on the third try.

The Portage Project utilizes precision teaching because it provides feedback daily to the parents and weekly to the teachers making home visits. Based on this data, the curriculum can be individualized for the child and success ensured for the child and the parents.



The Project's home teacher writes an activity chart of a targeted behavior (1. pinpoints) and introduces the activity to the child. Baseline data is collected (2. records). The teacher then follows the directions he/she has written on the chart and begins the teaching process (3. consequates). The parent works with the child during the week. When the home teacher returns the following week, post-baseline data is collected on the previous week's activities (4. records). This helps the teacher validate the accuracy of the parents' recording, and provides the teacher with feedback concerning the degree of success achieved by the child and the child's readiness for the next sequential step. If success was not attained, the previous chart is altered or a new activity replaces it (5. try, try again).

Utilization of the precision teaching model is rewarding for all concerned. It stimulates the imagination of the teacher planning an individualized curriculum and encourages flexibility in the use of teaching strategies. The daily recording is reinforcing to the parents and verifies the effectiveness of the program. Most importantly, the weekly goals ensure success for the children and families involved.

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THE PORTAGE MODEL IN THE HEAD START HOME-BASED OPTION

Deborah Cochran
Craig Loftin

The goal of the Head Start home-based option is to "involve parents directly in the educational development of their children and to help strengthen in parents their capacity for facilitating the general development of their own children...". The Portage Project's first Head Start home-based replication site, Operation Success, was established in 1973 in Milwaukee, Wisconsin. The original proposal was for the implementation of the Portage Model to Early Education (Shearer & Shearer, 1972) in the Head Start setting. The Portage Model lends itself to the accomplishment of the above stated home-based goal by providing a foundation in which parents learn specific teaching and child management skills in a precise and systematic manner. It is important to remember that the foundation provided by the model is there to support the home teacher rather than restrict the activities that take place. With this in mind, it was recognized that to better address the scope of Head Start services and meet the needs of the population served, certain modifications and additions to the model were necessary. This article details the four most significant of these modifications:

- Expansion of the home visit to include a larger variety of activities
- Expansion of curriculum activities into all Head Start components
- Development of a Home Visit Report that corresponds to the expanded visit
- Development of a Family Needs Assessment Process & Family Assessment Tool

Expansion Of The Home Visit To Include A Larger Variety Of Activities

In consideration of the families to be served by Operation Success, the home visit has been expanded to include home visit activities and parent education activities in addition to the prescribed activities of the original Portage Model. Activities for each of the three parts are always planned, presented and given equal emphasis during the home visit. Figure 1 details the foundation for the three types of activities presented during the weekly one and one-half hour visit in which the parent and children participate with the home teacher.

I. Prescribed Activities 25-35 minutes	II. Home Visit Activities 30-35 minutes	III. Parent Education Activities 20-30 minutes

Figure 1. Three parts of the Home Visit (see page 84).

This representation demonstrates the order in which the home teacher moves through the activities during the home visit.

PRESCRIBED ACTIVITIES — The prescribed activities are presented first because they generally require concentration and the full attention of the parent and child. These activities comprise the foundation of the planned stimulation between parent and child for the coming week. Home teachers plan an average of three to four prescribed activities per week based on the parent's ability to handle this number. The amount of practice provided by presenting three to four activities allows the parent to master specific teaching skills and affords the child a level of stimulation comparable to that received in a center-based program. These are formal activities designed to teach both the parent and child specific skills in a structured setting. Skills for the child are targeted using the *Portage Guide to Early Education* Checklist. Activities for teaching each targeted skill are written on activity charts, planned for achievement in one week and are presented using the Portage Project Home Teaching Process. The Activity Chart directions provided for the parent have been expanded to include variations in practicing

THREE PARTS OF A HOME VISIT

Prescribed Activities
25-35 minutes

Structured Activities:

HOME TEACHING PROCESS

- Teacher Takes Post Baseline on Previous Weeks Activities
- Teacher Presents New Activity, Takes Baseline and Models Teaching Technique
- Parent Demonstrates Teaching of New Activity
- Parent and Teacher Review Activity and Recording

The Portage Project

Home Visit Activities
30-35 minutes

Non-formal Activities Involving members present during the visit:

Child Directed Activities which Provide an Opportunity for Creative Expression:
-Art, Science, and Music Activities and
-Exposure Activities through use of the Unit Concept

Emphasis on the Home as The Teaching Environment by:
-Use of Household Objects as Educational Materials and use of
-Daily Activities as Teaching Experiences

Expansion of Skill Aquisition Through:
-Generalization and
-Maintenance
-Readiness Activities

To Facilitate the Independent Direction and Initiation on the Part of the Parent

Parental & Family Activities
20-30 minutes

Parent Education and Information Sharing in All Component Areas

Discussion of Parental Concerns

Review Activities Left, and Discuss Next Weeks Activities. Sign Home Visit Report

PORTAGE PROJECT HOME START TRAINING CENTER
HOME VISIT REPORT

Child: MARY JO TAYLOR. Home Visitor: ANNE RANKIN

Week# 15 Visit# 13 Length 90 min Scheduled Date: 12/2 Time: 10^00 Rescheduled Date: _____

Time: _____

Reason for missed or rescheduled visit:

Postbaseline on last week's activities. Please attach activity charts you picked up during your visit.

Acitivity Code	Objective	Baseline	Post-baseline
N-Cog 49	Will point to long and short objects on request 4/4x	1/4	4/4
N-M 99	Will jump foward 10 times w/o help 3/3x	0/3	3/3
C-Lang 60	Will tell 3 facts from story, with pictures as a reminder 1/1x	0/1	1/1

Parent Comments:

Mary Jo really enjoyed the activities that were left last week. I enjoy teaching her and feel that I am learning many new skills to teach her.

Jane Taylor
Parent's Signature

Home Visitor Comments: Ms. Taylor will call Jim Franks to make appointment to apply for ADC.

The Portage Project

PRESCRIBED ACTIVITIES

Activity Code	HOME VISIT OBJECTIVES	Baseline	RECORDING PROCEDURE
	N = a new objective presented (record checklist item number after code) C = an objective previously presented, not accomplished, which is represented now		/ = when presented M/D = fill in date when accomplished
N-SOC 55	Will follow rules in group game led by adult, when reminded 4/4x	2/4	12/9
N-SH 56	Will wake up dry 2 out of 7 mornings during week	0/7	1/
N-COG 49	Will match objects 1 to 1, without help 3/3x	1/3	12/9

HOME VISIT ACTIVITIES

Theme: Christmas - Winter

	Last Week's Total	15/15	8/10	7/7	3/6	9/9	0/0	3/3	1/1	0/0	5/5	0/0	0/0
	Accomplished Total presented	16/16	8/10	7/7	3/7	10/10	0/0	3/3	1/1	0/0	5/5	0/0	0/0

	I = Informal Activity RP = Review of a Prescribed Activity pc = item presented from curriculum checklist for evaluation or readiness	Baseline	x = presented M/D = record date if accomplished
RP COG 30	Will copy circle w/o help 3/3x	3/3	12/2
pc-m 109	Cut circles		X
I	Paste and color circles to make snowman picture		X
I	Make "bambino" snack		X
I	Fingerpaint		X

PARENT EDUC. ACTIVITIES

	I = Informal Activity W = Family Assessment Tool Work Sheet L = Family Assessment Tool Log Sheet	X = presented
W	Write menus for bkfst, lunch, dinner which contain Basic 4	X
I	Go over Home Safety Checklist	X
I	Give Mom Jim Frank's number: 555-3697. ARC worker	X
I	Parent Meeting - Weds. 8:00 p.m.	X

Component and Developmental Areas	Cognitive	Language	Motor	Self-Help	Socialization	Medical	Nutrition	Dental	Mental Health	Safety	Social Services	Parent Involvement
Last Week's Totals	18	14	12	10	16	3	9	3	0	5	0	3
Total Number of Activities Presented Year to Date	21	14	13	10	17	3	11	3	0	6	1	4

specific skills in different settings once the skill is mastered. This step was added to facilitate a smoother transition from performance of a skill in a structured setting to generalization of the skill to other materials and settings.

This Home Teaching Process is the preferred method for facilitating the development of teaching and child management skills for the parent. Use of this process makes the "learning by doing" experience a reality and ensures that planned activities are developmentally appropriate. Careful adherence to this process also ensures that the parent will experience success weekly which will aid in building her confidence as the child's first and most important teacher.

HOME VISIT ACTIVITIES — Home visit activities are non-formal activities involving the family members present during the home visit. The purpose of these activities is to facilitate the independent planning and direction by the parent of activities which occur during the course of everyday parent-child interaction. These activities focus on the home as the teaching/learning environment. In contrast to the acquisition of specific teaching and child management skills, these activities focus on the generalization of these parenting skills to an informal setting with more than one child.

The role of the home teacher and parent follows an evolutionary process throughout the year. The home teacher moves from having total responsibility for planning activities to a participant and consultant to the parent. The parent moves from the role of assisting the home teacher implement activities to assuming responsibility for planning and implementation of activities.

The purpose of these activities for the children is twofold. First they are designed to facilitate generalization and maintenance of specific skills, learned in a structured setting, to informal daily activities; and second they allow for the expansion and addition of creative and enrichment activities such as art, science, music, reading, finger plays, and spontaneous child initiated activities, which require the combination and expansion of specific skills in the child's repertoire of behavior.

Accomplishment of generalization, maintenance, and expansion occurs by diversifying the situations in which specific skills are used, by practicing the skills with different materials, and by presenting situations where the skill is combined with other skills to perform an activity.

The unit concept, which features a theme (seasons, community helpers, the family, and holidays) as the central focus for planning activities provides the child with exposure and readiness to the larger community and environment.

There is an emphasis on the use of home-made materials as teaching tools, so that parents can better utilize daily activities as teaching/learning experiences and so that parents are aware that fancy materials are not necessary.

Parent Activities

Parent activities focus on parent education in the areas of child development and management skills, health and nutrition, and knowledge and appropriate use of community resources. The purpose of these activities is to provide parents with the skills and knowledge needed to effectively teach their children and to pursue activities and resources that are in the best interest of their family. These activities are introduced at the end of the visit. Child activities are presented earlier when the child's attention span is fresh. Cooperative planning with the home teacher for prescribed, home visit activities, and group clusters, help the parent learn effective planning skills.

In addition to educational activities presented in all component areas, specific expressed needs of the family are also addressed. These are further described in the Family Assessment Section. Since the home teacher is the primary link between the parent and the Head Start Program, this time is used to share relevant program information such as the monthly newsletter, dates of field trips, group socialization clusters and announcements of parent meetings. Parent education activities provide quality time for one-to-one parent/home teacher interaction which also facilitates the enrichment of the parent/home teacher rapport.

Expansion Of Curriculum Activities Into All Head Start Components

To address the health needs of the families served by Operation Success, educational activities for parents and children were expanded to include the areas covered in the Head Start Health Component (medical, mental health, dental, nutrition, safety, and sanitation).

A yearly calendar of curriculum activities in health education is planned by Operation Success staff. These activities are presented in all three parts of the home visit and this assures that a minimum level of information is presented to all families in the program. Child activities in health are presented in the prescribed activities section if the activity requires the development of specific skills, such as brushing teeth or learning evacuation procedures for a home fire drill. Otherwise, child activities are usually presented during the home visit activities section of the

home visit. Parent activities in the area of health are presented in the parental concerns section.

Once a month during the home visit, nutritious snacks for the child are prepared by the parent and home teacher as a home visit activity. Weekly recipes are shared with parents for one nutritional snack.

A home safety checklist is presented during a home visit and completed by the parent. Any pinpointed needs are discussed and plans are outlined to initiate changes which ensure the child is provided a safe and healthy home environment.

Medical and dental checkups and follow-up treatment are provided by a local pediatrician and a neighborhood dental clinic. Curriculum and resource materials for these health activities are obtained from a variety of local resources by the home teacher and are shared with the parents for their independent use. Stressing total health during the home visits brings the child's health care needs to the attention of the parents and provides them with the means to meet those needs.

Development Of A Home Visit Report That Corresponds To The Expanded Visit

The Portage Project reporting procedures format was expanded to record activities from the three parts of the home visit and in all Head Start Component Areas. The Home Visit Report (Figure 2.) is completed weekly for each family visited. This report provides a written account of all activities presented during the home visit while doubling as the home teacher's planning guide.

Reviewing the Home Visit Report provides feedback to the home teacher and supervisor of services being delivered in the home. By examining the home visit report, it is determined whether or not the activities are addressing the needs of the total child, whether they are successful in a one week period, whether the parent is successful in implementing activities, and whether all component areas are being addressed.

This reporting format aids supervisors in identifying training needs for home teachers and parents. It also documents the delivery of quality services to children and families enrolled in the program.

Development Of A Family Needs Assessment Process & Family Assessment Tool

Head Start provides services in the component areas of Education, Health, Social Services, and Parent Involvement. Although the Portage Model adequately addresses the areas of Education and Parent Involvement, a Family Assessment Tool was developed to expand the assessment process in the health and social services components (See Figure 3). The goal of the family needs assessment process is to teach families to independently assess and meet their identified needs. Three objectives were identified as crucial to this goal attainment:

1. Families will independently identify their strengths, problems, and needs.
2. Families will become aware of available community resources.
3. Families will independently utilize appropriate resources to meet their needs.

The Family Assessment Tool consists of two parts: the log sheet (Figure 3.) and the work sheet (Figure 4.).

Expressed needs and the component area of that need are recorded on the log sheet. The parent, together with the home teacher, develops objectives to meet these needs and lists them according to their priority. After each objective, the initiation, completion, and follow-up dates are recorded. Only needs expressed by the families are addressed and acted upon, thus ensuring that the need is perceived by the family as genuine. This eliminates the tedious process of completing long questionnaires that probe into areas irrelevant to the family's needs. The home teacher periodically asks if there are any problems the family might need assistance with. These questions are most appropriately presented during the parental activities portion of the home visit since activities in the various components often serve as a catalyst in helping identify needs.

When completing the log sheet, expressed needs are recorded in the left hand column. The family, with assistance from the home teacher, determines how these needs will be met. An objective to meet these needs is formulated and agreed upon by the family. The last three columns of the log sheet are for 1) recording the date the family initiated action on the objective, 2) the date the family completed it, and 3) the date any follow-up occurs. Once priorities are set, the parent and home teacher complete the work sheet. The work sheet is intended to teach the parent to divide a need into its component parts and develop a plan for satisfying each part. Recorded on the

FAMILY ASSESSMENT TOOL LOG SHEET

Family's Expressed Needs	Area	Priority	Objective	Initiation date	Completion date	Follow-up date
None of the children have received their immunizations	Medical	1	Mom will make an appointment with clinic to begin immunization program.	9/18	9/18	11/25
Mother does not want more children	Social Services	2	Mom will make apptmnt with Planned Parenthood to discuss birth control alternatives	10/18	10/22	1/11
Family diet limited to bread, vegetables and pop.	Nutrition	3	Mom will plan and serve balanced meals.	11/25	2/4	

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FAMILY ASSESSMENT TOOL WORK SHEET

Area Nutrition Objective Mom will plan and serve balanced meals.

Family strengths: Family receives food stamps.

Steps	Who	Outcomes
1. DISCUSS BASIC 4 FOOD GROUPS	MOM- HOME VISITOR	mom sorted FOODS INTO BASIC 4.
2. write menus which contain foods from 4 groups	mom- HOME VISITOR	Prepared balanced menu
3. Prepare menus for 1 wk that reflect balanced meals	Mom	Wrote menus and alternatives
4. Record food served for 1wk to insure carry through	Mom	Mom carried through on serving more balanced meals
5. Mom will meet w/ Extension Agent to discuss food budgets	Mom	Reports better use of $.

Resources needed: Consult the Resource Directory

Name	Agency	Address	Phone
Dorothy HAMMEN	COOPERATIVE EXTENSION SERVICE	224 WEST 11th St. Milwaukee	555-2341

The PortageProject

work sheet are the strengths of the family in meeting the chosen objective, the steps necessary to meet the objective, who will perform each step, and the expected outcomes. Program personnal never perform a step without some participation from the family member(s) involved. The lower portion is used to record the resources or agencies used in completing the steps.

This work sheet serves as a guideline for the family to follow in achieving their chosen objectives.

The home teacher gives the parent a current directory of community resources during the initial home visit, which is then left in the home. Whenever a need arises, the home teacher presents the work sheet and has the parent consult the resource directory. The family member independently completes as much of the work sheet as possible. The home teacher provides only the assistance needed for the family member to be successful and then gradually reduces assistance until the steps are completed independently. Once the process of completing all steps is mastered, the teacher gradually discontinues the use of the work sheet and only records family needs on the log sheet.

The method of family assessment employed by Operation Success assures that the family will systematically acquire the skills needed for independence and to upgrade the quality of their life.

Summary

These modifications have insured the successful expansion of the Portage Model to provide comprehensive services in the Head Start components and meet the home-based objectives. The evaluation of the Home Start effort carried out by ABT Associates in 1975 indicated that home-based early education programs can be as successful as center-based programs in facilitating positive change in the families enrolled.

The Portage Project Operation Success is one such home-based program. By modifying the program and its methodology to meet the health and educational needs of the families as they relate to their young children, Operation Success has encouraged the growth and independence of not only target children but the entire family as well.

Today, there are over 150 Head Start home-based programs throughout the United States using this modification of the Portage Model. Training is available for Head Start home-based options through the Home Start Training Center operated by the Portage Project.

TEN PROBLEMS FREQUENTLY ENCOUNTERED WHEN USING BEHAVIORAL CHECKLISTS

Elizabeth May
Neal Schortinghuis

Behavioral checklists have become indispensable educational tools. As an outgrowth of behavioral analysis, behavioral checklists have ballooned to cover almost every conceivable behavior from toilet training to flying an airplane. For example, Walls, Werner, Bacon and Zane (1975) have identified over 200 behavioral checklists developed by prolific listsmiths. In early childhood education, these tools have been used for identification, diagnostic placement, program evaluation, and curriculum planning.

The problems associated with reliability and validity in using behavioral checklists have already been discussed by various authors (Bijou, Peterson, & Ault, 1968; Cronback & Meehl, 1955; Hull, 1971; Johnson & Bolstad, 1973). The purpose of this paper is to examine the problems teachers (particularly in preschool programs) have encountered in using behavioral checklists as a basis for curriculum planning. The specific areas of concern are:

1. Completing the behavioral checklist incorrectly.
2. Teaching to suggested materials and activities.
3. Following the behavioral checklist too rigidly.
4. Targeting only in identified skill deficit areas.
5. Avoiding identified skill deficit areas.
6. Limiting targeted behaviors to skills the teacher is comfortable teaching.
7. Using a checklist that is inappropriate for a specific child.
8. Assessing and sequencing skills correctly but teaching splinter skills.
9. Putting undue emphasis on skills commonly classified as "kindergarten readiness".
10. Failing to plan for generalization and maintenance.

Completing the Checklist Incorrectly

A teacher, by correctly completing a checklist, can obtain an excellent picture of a child's skills. However, in completing a checklist, mistakes often occur. Frequently the teacher doesn't observe the child exhibiting the skill but assumes that he has acquired it. The teacher might say: "I can't think of a specific time when I saw Tom working alone at one thing for 20-30 minutes, but I'm sure he could if he tried," and then checks that item as an entry behavior on the checklist. This results in an inflated assessment of the child's skills and leads to faulty curriculum planning.

A related problem occurs when two or more people are completing a checklist and the criteria for determining mastery of a skill are not jointly determined. If a teacher and parent are completing a behavioral checklist together, the teacher might ask the parent: "Can Mike take off and put on his coat without help?" The parent might answer "yes", thinking that this skill does not include buttoning, while the teacher assumes it does include buttoning and marks that skill as accomplished. This problem can be alleviated by direct observation. Also, it is not as likely to occur if the items on the checklist are written in behavioral terms. Unfortunately, this is not the case with many checklists, thus leaving the criteria for mastery of the items open to many interpretations. Still another misuse of a behavioral checklist can occur when the teacher and/or parent view the tool as a "test" rather than as a baseline on the child's present skill levels. They want the child to "look good" and therefore give the child the benefit of the doubt if an item on the checklist is in question. If there is any question about a particular item just the opposite should occur; the parent and teacher should carefully observe the child to see if the skill has been mastered.

These mistakes can be avoided if the teacher views the checklist as a tool to be used in planning curriculum, uses a consistent definition of the expected behavior, and relies on direct observation of the child.

Teaching to Suggested Materials and Activities

Many behavioral checklists also include suggested teaching materials and activities. It may seem most efficient to use those materials and activities when in actuality, they may or may not be appropriate. Once a skill is targeted for the child to learn, the teacher should assess that child in terms of his learning style, meaningful reinforcement, and interest in various materials. Only then

should the teacher choose the most appropriate teaching activity and materials for the child.

Often the suggested materials may be appropriate for some children, but completely inappropriate for others. For example, one behavioral checklist has the item "carries breakable objects" and the materials suggested to teach the skill are "small breakable ashtrays" and "pop bottles". For some children and families these materials would be accessible and appropriate, but many parents would not want to encourage their preschool children to carry these objects around.

Other ways in which materials might be misused are: a teacher may choose a colorful, commercially available toy and then consult a checklist to see what she can teach the child when the process should be the other way around; or, a teacher may utilize a suggested way of teaching shapes that works with one of her children and then automatically go ahead to use the same with the rest of the children. In both examples, the teacher has failed to take into account the individual child.

Of course, sometimes the activities and materials on the checklists are very appropriate. However, the teacher's knowledge, creativity, and considerations for individual children should go into planning every activity.

Following the Behavioral Checklist Too Rigidly

Once the child's initial curriculum assessment is completed with use of a checklist, the teacher is ready to select skills to teach the child. Those skills selected need not be the first items on the checklist that the child was unable to do. There is a range of behaviors that is developmentally appropriate for the child; there are practical reasons that govern the choice of behaviors within that range. For example, in the autumn a child's entry behavior shows that he is ready to: pull off his socks, take off pants when unfastened, and put a hat on his head. The teacher might choose the skill "puts hat on head" to teach first. This behavior would be both developmentally and functionally appropriate for the child because he is ready to learn the skill and could incorporate it into his daily activities throughout the winter.

Using behavioral checklists for planning is not like following a recipe. Each child is unique and learns at his own rate. Thus, items on a checklist may need to be broken down into smaller, teachable steps using task analysis. Failure to do this can result in frustration for the child and teacher.

The authors analyzed data from a replication of the Portage Project in Wessex, England which used the *Portage Guide to Early Education* as the sole basis for curriculum planning for mentally handicapped children. They found that 60 percent of the weekly goals for the children were directly from the checklist whereas 40 percent were checklist items that needed to be broken down into smaller steps. Of course, there was variance among individual children, ranging from one child who needed to have tasks broken down into simpler components only 17 percent of the time to another child who required smaller steps 79 percent of the time.

The concept of flexibility in using a checklist was probably best stated by Bluma, Shearer, Frohman and Hilliard (1976) when describing the way to use a Checklist. "The behaviors listed on the Checklist are based on normal growth and development patterns; yet no child, normal or handicapped is likely to follow these sequences exactly. Children may skip some behaviors completely, may learn behaviors out of sequence, or may need additional subgoals in order to achieve a behavior on the Checklist. Each instructor's ingenuity, creativity, and flexibility plus a knowledge of the child and his past development pattern, will be needed to help plan appropriate goals so that he will learn new skills."

Targeting Only in Identified Skill Deficit Areas

Most authors of behavioral checklists used in curriculum planning group behaviors into classes or domains, usually called developmental areas. For example, a common grouping in early childhood is socialization, language (often subdivided into expressive and receptive), self-help, cognitive, and motor (subdivided into fine and gross).

Many children in educational programs have been placed in those programs because of identified skill deficits in one or more of these areas. One goal of intervention is then to eliminate the developmental deficit and rightly so, but it is possible to spend an inordinate amount of time targeting in those deficit areas and to forget that an educational program should stimulate growth across all developmental areas. A child with a skill deficit area(s) still has needs that should be met in other areas. In many cases, a teacher can plan a multi-purpose activity that incorporates more than one developmental area. For example, if a child has a deficit in the language area, activities such as doing a fingerplay or following directions through an obstacle course would not only address the expressive and receptive language area, but would also help the child's fine and gross motor development. If this is not done, a child may inadvertently develop deficits in other areas simply because they are not addressed.

Continuously focusing on the problem area can also result in frustration for the child. Success does not come as easily and the child is made to feel less competent than if his strengths, as well as his weaknesses, were taken into consideration.

Avoidance of Skill Deficit Areas

This potential problem is the opposite of focusing only on the deficit area but with different reasons for its occurrence.

When a teacher and a child work together and achieve success, they reinforce each other. Because the success and rapid progress are more likely to occur in non-deficit areas, the teacher may continue to target and teach in those areas because the behavior (targeting and teaching) is reinforced. For example, if a child is moderately delayed in the language or cognitive area he has most likely experienced failure in those areas. As a result, he may not participate as willingly in those activities, because he hasn't experienced success in the past. On the other hand, if his strengths lie in the motor and self-help areas, activities in these areas will be more reinforcing for the child and the teacher to work on because the child has a higher probability of achieving success and enjoys participating in them more. Thus, the curriculum sometimes swings more and more towards the stronger, reinforcing areas and away from the more difficult deficit areas.

We cannot overemphasize that a teacher must provide instruction for the whole child in all developmental areas, taking that child's unique abilities and needs into account. It is all too easy to end up unintentionally and unconsciously teaching in areas where one receives the most reinforcement.

Limiting Targeted Behaviors to Skills the Teacher is Comfortable Teaching

Preschool teachers' training and experience provide them with teaching skills that vary somewhat across developmental areas. There may be many skills listed in the checklist that a teacher either has not had the opportunity to teach or has not had much success with in the past. For example, if the teacher's only attempt at toilet training was with a child who continued to have accidents, even after an intensive program, it is not likely that that teacher would readily implement a toileting program with another "difficult" child.

This also occurs when a teacher who has training in a specific area, such as speech and language, unintentionally puts undue emphasis on speech and language activities and, at the same time shies away from teaching self-help skills such as self-feeding and dressing, especially if that teacher has never taught them before.

This problem can be avoided by cooperative planning with input from various specialists. These "staffings" help to assure that the child's needs in all areas of development are considered. Also, a careful assessment of needs can be undertaken and then inservices can be planned in areas where the teacher has weaknesses.

Using a Checklist That is Inappropriate For a Specific Child

Because children progress at different rates and have different problems, some checklists may be more appropriate for some children than others. For example, a checklist based on normal development may not be nearly detailed enough for those working with severely and profoundly handicapped children. The checklist loses its value as a curriculum guide if a teacher ends up working on one specific item for weeks or months on end. Teaching becomes frustrating for the teacher, parent, and child. Instead, the teachers might make their own checklist with the items broken down into smaller steps or find another behavioral checklist that is more helpful in curriculum planning for the individual with whom they are working.

Assessing and Sequencing Skills Correctly But Teaching Splinter Skills

If the teacher does not refer back to the behavioral checklist following the acquisition of a targeted objective, the teacher may allow the curriculum plan to spin off on a tangent and thus end up teaching splinter skills.

This can happen in two ways — horizontally or vertically. A horizontal splinter skill occurs when a teacher appropriately targets an objective for the child but elaborates on that skill beyond the point where the skill is functional. For example, a teacher may target "names three colors on request" and successfully teach that skill to criterion, but then may proceed to go beyond the basic colors to teach violet, mauve, tangerine, chartreuse, magenta, etc. This can prove to be very reinforcing to the teacher and/or parent because the child can answer correctly a large number of questions in a very specific area and appear "smart". Teaching these behaviors wastes valuable teaching time and does very little to enhance the child's overall development.

A vertical splinter skill is probably a more common error. It occurs when a teacher initially targets a developmentally appropriate behavior, but then takes that behavior to higher and higher levels of functioning. For example, a teacher may teach a child to "count to three in imitation" from the *Portage Guide to Early Education;* Cognitive Card No. 51, age three to four (Bluma et al 1976) and then go on to teach "counts to ten objects in imitation" which is at the four to five age level. The next goal might be "counts by rote one to 20" at the four to five age level, and finally "counts up to 20 items and tells how many" at the five to six age level. If the child in this example had been three years of age, the teacher would have been teaching skills far above the child's developmental level even though the sequencing of these skills was correct. This results not only in an expenditure of time and energy that could be utilized more effectively but also necessitates breaking the targeted tasks into smaller and smaller steps (creating, in reality, another behavioral checklist or a task analysis). Additionally, because of the increasing complexity of the tasks beyond the child's developmental level, the probability of a successful learning experience for the child is diminished.

Putting Unjustified Emphasis on Skills Commonly Classified as "Kindergarten Readiness"

Pressure to teach kindergarten readiness skills is a perpetual problem for the preschool teacher. The perception that these skills constitute "schooling" or "education" is pervasive. For example, when parents are asked what they would like to work on with their child, many immediately choose skills such as having the child write his name, count, or say the alphabet, even though developmentally the child is no where near ready to master these skills. The problem may be further compounded by some schools that send around their "lists" of skills that the child is expected to have learned before entering kindergarten. In extreme cases, the pressure may take the form of the kindergarten teacher saying things such as "I wonder what the preschool teachers are doing? Many of their children can't even write their name when they come to school".

The concern addressed above does not mean, however, that emphasis on these skills would be inappropriate for all children. For example, many four year olds are in programs specifically because of skill deficits in these areas. Emphasis placed on these skills would be appropriate.

The authors reviewed 809 individual lesson plans from a preschool program and found that 30 percent of the stated behavioral objectives were: drawing shapes (+ 1, -, 0, □, △, ~); naming shapes (0, □, △); naming, matching, and pointing to colors; and naming numerals, matching numerals to objects, and rote counting. While these objectives are appropriate for some children, one must ask if the teachers looked at all areas of development so that the most appropriate programming could be developed for each child.

Failing to Plan for Generalization and Maintenance

No behavioral checklist in existence encompasses all the skills preschool children need to learn — at best a checklist is a sequential developmental listing. These behavioral checklists often include behaviors that appear extremely restricted but which, in fact, represent only a single example of a whole class of behaviors. For example, "puts four rings on peg" is one behavior on a checklist which is meant to represent a group of behaviors that requires a similar degree of eye-hand coordination and problem solving ability. The behavior on the checklist was made specific for observational reliability and ease in establishing criteria. If a teacher only targets and teaches "puts four rings on peg" and does not plan for generalization and maintenance of the behavior, the child will: 1) only be able to put four rings on a peg, which does not do anybody much good, or 2) forget how to put four rings on a peg, which is even worse. As Harbin states (1977), "Children go through two stages in developing skills: acquisition and generalization. Criterion-referenced devices tend to measure only acquisition."

Thus, it is fallacious to assume that a child will automatically generalize and be able to maintain a specific skill. Preschool children, particularly those who have special needs, need to be taught generalization by practicing a skill in more than one situation. A child who learns to name a block as "blue" then needs to practice using "blue" as a descriptor of many other objects and in many other situations. That same skill will most likely be maintained if it is reinforced in the child's daily routine, e.g., by having the child name blue objects in a grocery store or choose blue clothing to wear. Thus, the child learns that "blue" is an integral part of his environment and not just the color of a block that his teacher showed him.

Summary

Although the above problems do occur, checklists are still indispensable tools for teachers. Valuable curriculum

planning information can be obtained from them as well as ideas for implementation. Yet, problems do arise no matter how conscientiously the tools are employed. Ongoing assessment of the curriculum plan and individual adaptations that meet the unique needs of children provide the means by which many of these problems can be circumvented.

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Abstract

The authors have identified ten problems encountered when using a behavioral checklist as a basis for curriculum planning. The ten problems and methods of avoiding them are discussed. The problems identified are:

1. Completing the behavioral checklist incorrectly.
2. Teaching to suggested materials and activities.
3. Following the behavioral checklist too rigidly.
4. Targeting only in identified skill deficit areas.
5. Avoiding identified skill deficit areas.
6. Limiting targeted behaviors to skills the teacher is comfortable teaching.
7. Using a checklist that is inappropriate for a specific child.
8. Assessing and sequencing skills correctly but teaching splinter skills.
9. Putting undue emphasis on skills commonly classified as "kindergarten readiness".
10. Failing to plan for generalization and maintenance.

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